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A Study of Participant Tracking, Semantic Roles, and Social Networks in Leviticus 17–26

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PhD Thesis, Vrije Universiteit Amsterdam

VRIJE UNIVERSITEIT

ROLES AND RELATIONS IN BIBLICAL LAW

A Study of Participant Tracking, Semantic Roles, and Social Networks in Leviticus 17–26

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op gezag van de rector magnificus
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א Mimi

עָזִּי וְזִמְרָת יָהּ וַיְהִי־לִי לִישׁוּעָה

YHWH is my strength and my song,
and he has become my salvation.
Exodus 15:2

Summary

The so-called Holiness Code (Lev 17–26) concerns itself with cultic and social legislation. Dealing with the ethics of ancient Israel, the law text makes reference to a broad range of participants, including YHWH, Moses, the addressees, the poor, the women, the priests, and a blasphemer, to name but a few. The participants constitute a community, and each participant has its own role within this community. Previous studies on the participants of this text have been limited to the characterization of individual or small sets of participants. In this study, however, it is argued that the social roles of the participants depend not only on their concrete interactions but also on their positions in the social community. Accordingly, this study offers a Social Network Analysis (SNA) of the text in order to explore the structural properties of the social network implied by the text as well as to consider the network roles of the participants. SNA relies on two types of data, nodes (= participants) and edges (= interactions), both of which require in-depth linguistic analysis in order to glean the sufficient data from the Hebrew text.

To begin with, it is not straight-forward to extract participants from the text. The participants need to be tracked throughout the text in order to create a mapping of the participants and their linguistic references. This task has usually been carried out on individual chapters. This study furthers the analysis to a corpus of ten chapters and discusses a computational approach to participant tracking employed and tested on Lev 17–26. The benefit of a computational approach is its consistency because the algorithm relies only on linguistic data and not on human intuition. As a side-effect, the computer program shows the complexities of the text whenever it fails to resolve the participant references such as a human interpreter would. A number of specific linguistic phenomena are discussed, including nominal clauses, anonymous participants, communication patterns, synonyms, and part-whole relationships in order to improve the computational analysis whenever possible and to account for tensions and abnormalities in the text.

The second data type required for the SNA is the interactions among the participants. Above all, for the purpose of analyzing the social network of Lev 17–26, the interactions need to be quantifiable. In other words, it is crucial to be able to distinguish and compare various interactions because different interactions imply different relationships. It is argued that the interactions can be quantified in terms of agency, that is, different interactions entail different semantic roles as well as degrees of agency invested in the event. Role and Reference Grammar (RRG) provides the theoretical framework for conceptualizing Biblical Hebrew verbs and their semantic roles. In particular, it

is argued that dynamicity (i.e., the opposition between active and stative verbs) and causation are the two most significant verbal properties with respect to semantic role selection. These two parameters are particularly well accounted for by RRG. The chapter, then, surveys the correspondence between Hebrew morphology and syntax on the one hand and dynamicity and causation on the other hand. While previous research has most often accounted for the correspondence by qualitative analysis, the present study sets out to test quantitative methods. It is demonstrated that statistical methods are indeed promising tools in discerning the core semantic notions of dynamicity and causation, and they are particularly apt for the study of ancient corpora such as the Hebrew Bible where there are no competent language users to consult. With respect to causation, both morphological causatives (Hiphil and Piel) and lexical causatives are surveyed. Ultimately, on the basis of both verbal, nominal, and clausal properties, a novel hierarchy of semantic roles is proposed. By doing so, each participant receives a ranking according to its degree of agency invested in a particular interaction.

Finally, by incorporating the participant tracking data and semantic roles data surveyed, the Holiness Code is interpreted with Social Network Analysis. The structural properties of the social network are explored by applying classical and contemporary SNA methods, including the recently developed node2vec algorithm for feature-based role discovery. While SNA has previously been applied to the study of literature, the present approach diverges in important aspects. Firstly, it is the first attempt at exploring the social network of an ancient law text, and this task raises theoretical questions as to how the network roles of the participants relate to the meaning and purpose of the law. Secondly, given the quantification of events into degrees of agency, the SNA can include all kinds of interaction and not only a single type as commonly done in SNA. Finally, the methodology developed in this study implements the discourse structure of the text itself, and it is demonstrated that the network roles of the participants cannot be adequately accounted for by an ordinary two-dimensional social network model but need to be related to the structural positions of the participants within the discourse. In light of the social network, the roles of the participants in the Holiness Code are explained and discussed with regard to the values and expectations of the author. It is demonstrated that the characterization of the participants is much more solid when taking the social network into account. Accordingly, the roles of Moses, the priests, the ordinary Israelites, the foreigners who sojourn among the Israelites, the women, and the blasphemer in Lev 24, among others, are reconsidered on a more quantitative basis than has been common among Biblical scholars.

CONTENTS

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Soli Deo Gloria

Abbreviations

Abbreviations related to the Hebrew Bible

BH	Biblical Hebrew
CBH	Classic Biblical Hebrew
HB	Hebrew Bible
H	Holiness Code
HS	Holiness School
LBH	Late Biblical Hebrew
P	Priestly Code
TBH	Transitional Biblical Hebrew

Abbreviations of Biblical books

Gen	Genesis
Exod	Exodus
Lev	Leviticus
Num	Numbers
Deut	Deuteronomy
Josh	Joshua
Judg	Judges
1–2 Sam	1–2 Samuel
1–2 Kgs	1–2 Kings
1–2 Chr	1–2 Chronicles
Ps/Pss	Psalms
Prov	Proverbs
Eccl	Ecclesiastes
Isa	Isaiah
Jer	Jeremiah
Zech	Zechariah

Abbreviations related to grammar and linguistics

*	ungrammatical sentence
1/2/3	grammatical number

AB	absolute state
ADJ	adjective
ADV	adverb
AFF	affectedness
ART	article
C	common gender
CLM	clause linkage marker
Cmpl	complement
CR	conjunction
CS	construct
DU	dual
F	feminine
HI	*Hiphil*
HIT	*Hithpael*
HO	*Hophal*
HSHT	*Histaphel*
IMP	imperative
IMPF	imperfect
INF	infinitive
INGR	ingressive
INST	instigation
INTR	interrogative
LOC	locative
M	masculine
NARR	narrative
NEG	negative
NI	*Niphal*
NP	nominal phrase
p	preposition
PAct	participant actor
PERF	perfect
PI	*Piel*
Pl	plural

PP	prepositional phrase
Pred	predicate
PRef	participant reference
PROC	processive
PRON	pronoun
PSet	participant set
PTC	participle
PU	*Pual*
QA	*Qal*
Subj	subject
SEML	semelfactive
SEQU	sequential
Sg	singular
UVF	univalent final
VOL	volition

Abbreviations related to statistics

¬	negation
∑	summation
MDS	Multidimensional Scaling
PCA	Principal Component Analysis

Other abbreviations

[…]	indicates insertion
BHSA	Biblia Hebraica Stuttgartensia Amstelodamensis
ETCBC	Eep Talstra Centre of the Hebrew Bible
RRG	Role and Reference Grammar
SNA	Social Network Analysis
TF	Text-Fabric
WIVU	Werkgroep Informatica Vrije Universiteit

TRANSLITERATION AND GLOSSING OF HEBREW SCRIPT

The transliteration of the Hebrew script follows the system developed for Bible Online Learner (https://bibleol.3bmoodle.dk/) For special rules, including the transliteration of combinations of vowels and vowel indicators, cf. Nicolai Winther-Nielsen, Claus Tøndering, and Chris Wilson (2009).

Consonants

א	ʾ	ו	w	כ	k/x	ע	ʿ	שׂ	ś
ב	b/v	ז	z	ל	l	פ	p/f	שׁ	š
ג	g	ח	ḥ	מ	m	צ	ṣ	ת	t
ד	d	ט	ṭ	נ	n	ק	q		
ה	h	י	y	ס	s	ר	r		

Vowels

◌ַ	*pataḥ*	a	◌ִ	*ḥireq*	i
◌ָ	*ḥātēp pataḥ*	-ᵃ	◌ֹ	*ḥōlem*	ō
◌ָ	*qāmeṣ*	ā	וֹ	*ḥōlem waw*	ô
◌ָ	*ḥāṭēp qāmeṣ*	-ᵒ	וּ	*šûreq*	û
◌ֶ	*segōl*	e	◌ֻ	*qibbûṣ*	u
◌ֶ	*ḥāṭēp segōl*	-ᵉ	◌ְ	*audible šewâ*	-ᵊ
◌ֵ	*ṣērê*	ē			

Additional signs

zero marking (absence of consonantal marking)	Ø	־	*maqqēf*	=

Occasionally, Hebrew sentences will be represented by interlinear glosses in order to provide the meanings and grammatical properties of individual morphemes. The glossing follows the Leipzig glossing conventions for interlinear morpheme-by-morpheme glosses.[1] According to these conventions, segmentable morphemes are separated by hyphens.

Translations throughout this thesis are my own unless otherwise stated. References to the Hebrew Bible correspond to the Masoretic numbering.

[1] Cf. https://www.eva.mpg.de/lingua/pdf/Glossing-Rules.pdf.

CHAPTER ONE

INTRODUCTION

1.1 Problem statement

For most contemporary readers of Leviticus, the terse language, the strange treatment of impurities, the bloody sacrifices, and the harsh executions appear odd if not directly offensive. The poetic and prophetic portions of the Hebrew Bible may seem more appealing, perhaps more 'inspired'. Many scholars have the same impression of Leviticus and the other priestly sections of the Pentateuch (e.g., Exod 25–40; Numbers). To mention but one classical example, Julius Wellhausen (1927; originally published 1883) regarded the priestly literature as a decay from the heartfelt and authentic prophetic experiences of the early prophets of the Hebrew Bible. By contrast, in the later, priestly literature, the cult was merely "a pedagogic instrument for discipline."[2] In recent decades, however, new readings of priestly law and cult have emerged, and it has been more common to approach Leviticus as a literary composition rather than a mere collection of primitive laws (cf. §2.3).

As one reads through Leviticus, a sensible change of tone and content appears in chapter 17. In comparison to the more objective and neutral listings of priestly and cultic material in the first half of Leviticus (and Exod 25–40 for that matter), Lev 17–26 distinguishes itself by its frequency of exhortations and paraeneses blended in with cultic and social laws. Most distinctive are the so-called divine *Selbstvorstellungsformeln* (אֲנִי יהוה 'I am YHWH'; e.g., Lev 18:2), the term originally coined so by Walther Zimmerli (1963), and occurring 47 times during this text.[3] By contrast, this proposition occurs only twice in Lev 1–16 (11:44, 45). The *Selbstvorstellungsformeln* function as strong, theological motivations for adhering to the law (Preuß 1985). Also a distinct feature of Lev 17–26, the divine *Selbstvorstellungsformeln* are often placed in paraenetic frames convoluting groups of legislation, most evidently in Lev 18:1–5, 24–30.[4] This part of Leviticus thus has a certain flavor or "besondere

[2] "in der mosaischen Theokratie ist der Kultus zu einem pädagogischen Zuchtmittel geworden" (Wellhausen 1927, 423). For a recent, critical evaluation of the Wellhausenian 'axiom' of P as a decay from the 'lively Deuteronomic religion', cf. Weinfeld (2004).

[3] The *Selbstvorstellungsformeln* are formulated in varied ways, sometimes in connection with reference to the exodus: "I am YHWH your God, who brought you out of the land of Egypt" (19:36; 22:33; 23:43; 25:38, 42, 55; 26:13, 45), cf. also R. Müller (2015).

[4] Apart from the paraeneses in 20:7–8, 22–27, seemingly mirroring those in Lev 18, the paraenetic frames in H are not unequivocal. Otto (2009, 140) suggests 19:1–4, 36b–37; 22:8, 31–33; 25:18–19, 38, 42a, 55; 26:1–2. Grünwaldt (1999, 132), however, does not regard 19:3–4 and 20:27 as part of the paraenetic framework (cf. also Blum 1990, 319–22).

Farbe" in the words of Erhard Blum (1990, 319).[5] Structurally, moreover, the text resembles other legal collections in the Pentateuch, the Covenant Code in Exod 20:22–23:33 and the Deuteronomic Code in Deut 12–26 (Jürgens 2001, 126). All of these texts are characterized by an introductory altar legislation concerning sacrifices, place for sacrifices, and blood (Exod 20:20–26; Deut 12:1–14:21; cf. Lev 17), and by their concluding exhortations (Exod 23:20–33; Deut 27–28; cf. Lev 26). In between, these texts contain various social and cultic legislation. Apart from structure and *Farbe*, Lev 17–26 is distinguished from the rest of the priestly material by its vocabulary, content, and style (cf. Joosten 1996, 6–7). Moreover, whereas the first half of Leviticus is concerned with the cult, "Lev 17–27 offers another look at cultic procedures from the larger perspective of the community and nation as a whole" (Averbeck 1996, 914). These features led early scholars to believe that Lev 17–26 formed an independent law-code, the Holiness Code (H), only later to be integrated with the priestly material. This view, attributed to Karl H. Graf (1866) and Wellhausen (1927), lasted for more than a century. And it is to this law text that the present study is dedicated.[6]

Along the lines of several recent studies of Leviticus (cf. esp. J. W. Watts 1999; Bibb 2009; Bartor 2010), H will be approached here as a piece of literature, indeed as 'social literature', insofar as the text speaks "about people and about the relationships between them" (Bartor 2010, 2).[7] Given the communal orientation of H, I am interested in the organization of the society implied as well as the roles of the human/divine persons (hereafter 'participants') involved. As will be demonstrated, previous research has focused on the social status and the role of one participant or a small set of participants, e.g., the priests, the foreigners, the women, or the fellow (cf. §2.5). However, the role of a participant cannot be seen in isolation from the roles of the remaining participants with which it interacts. A role is not an intrinsic feature of a participant but the meaning or function of that participant in a concrete social setting (as argued in §2.4.1). In this study, therefore, I shall argue that a Social Network Analysis (SNA) better accounts for the roles of the participants because each

[5] Unlike most previous scholars, however, this phenomenon did not lead Blum (1990, 319–22) to consider Lev 17–26 an originally independent document or a later expansion of the priestly document (P). Rather, according to Blum, the high frequency of paraenetic material in Lev 17–26 does not point to a qualitative difference with P but only quantitatively. Blum argues that the paraenetic tone of Lev 17–26 depends crucially on the content matter of these chapters. The paraeneses are not arbitrarily distributed but correlate with specific legislation.

[6] When I use the label 'Holiness Code', I do not refer to a documentary source or a redactional layer but simply as a convenient designation for the extant text of Lev 17–26. The scholarly debate on the origins of H is summarized in §2.2.

[7] Although this definition does not exhaust the concept, by 'literature' is meant a text purposefully structured by an author (or authors) aimed towards conveying a message to its audience. Further, as a legal text, Leviticus is 'social literature' because it aims towards regulating the behavior of the audience. For a discussion of Leviticus as literature, cf. Bibb (2009, 5–33).

participant can be interpreted in light of the social network in which it is embedded. Whereas most previous research on the participants of H has been aimed towards understanding the 'real', historical persons and towards dating the text or layers of the text, the social network characterization of the participants proposed here is restricted to the text itself. While the participants may certainly refer to historical persons, I am primarily interested in how the participants are characterized by the author of the text and what role they play in the implied social community of the text. How, and to what extent, the 'implied social community' refers to a historical setting is a secondary question in this respect and not addressed in this thesis.

More interesting is the methodological challenge for creating a social network model of a law text like H. Basically, a (social) network consists of 'nodes' connected by 'edges'. The resulting network forms a graph to be explored and analyzed statistically for the purpose of deriving the properties of the network at large as well as the structural roles of the nodes. In previous applications of SNA on literature, it has been common to treat participants as the nodes and interactions as edges. Most commonly, participants and interactions have been tagged manually. While a similar procedure could be carried out for H, it would be problematic for several reasons. For one thing, H contains 4,092 individual linguistic references which need to be connected and linked to the textual participants in order to retrieve the 'nodes' for the network analysis (Talstra 2018b). This task is known as participant tracking or participant resolution and is a complicated task, since BH has its own literary conventions with respect to participant references. Thus, a detailed study of the participant references and their linking to textual participants is required (cf. chapter 3). Secondly, the participants are connected by interactions, grammatically realized as predicates, e.g., 'speak', 'sanctify', 'kill', etc. H contains 936 predicates, corresponding to 181 different verbs. In SNA, 'edges' are normally conceptualized as one particular form of connection in order to reduce the complexity of the network to binary connections (e.g., who speaks to whom, or who is married to whom). In the SNA of H, all types of interactions are included in order to be able to construe the role of a participant in light of all its interactions. The fundamental question to be addressed is how one can compare two types of events. How should a speech interaction between two participants be interpreted *vis-à-vis* a cultic, economic, or emotional transaction between two other participants? In chapter 4, I shall argue that it is indeed possible to compare and contrast different events by means of the amount of agency invested by the participants. This proposal requires an in-depth analysis of Hebrew verbs and their agency entailments.

In sum, the overall research question to be pursued in this study is: What are the functions or meanings (i.e., the roles) of the participants within the social community implied by the piece of

literature called the Holiness Code? And by extension, how do the participant roles relate to the ethical concern of the text? These research questions naturally lead to two other research questions. Firstly, how can the participants to be analyzed be retrieved from the linguistic structures of the text? Secondly, how can the interactions among the participants be quantified so that the roles of the participants can be compared despite different event structures pertaining to them? A more detailed introduction to each chapter is given in the outline below (§1.2).

The research carried out relies on the ETCBC database of the Hebrew Bible, formerly known as the WIVU database. The ETCBC database contains the Hebrew text of the scholarly edition of the HB, *Biblia Hebraica Stuttgartensia*, published by the German Bible Society. The text is richly augmented with linguistic features, most importantly, full morphological parsing of all constituents, part-of-speech tagging, phrase type and function, and clause type and function. A representation of the ETCBC database is publicly accessible as the *Biblia Hebraica Stuttgartensia Amstelodamensis* (BHSA) (Roorda et al. 2019). The BHSA is available with Text-Fabric (Roorda, Kingham, and Staps 2020), which is a Python3 package for processing ancient corpora, including the Hebrew Bible, the Syriac Peshitta, the Dead Sea Scrolls, the Quran, and archives of cuneiform tablets, among others. All datasets and programming codes referred to throughout this thesis are available online (https://github.com/ch-jensen/Roles-and-Relations) or by personal communication (cch@dbi.edu). A reader-friendly sample of the data documented is provided in the appendix.

1.2 Outline of study

Chapter 2 presents a brief introduction to the Holiness Code and its history of research from the first modern historical-critical approaches to recent literary and rhetorical readings. Apart from this introduction, it is the aim of the chapter to develop the theoretical basis for the present SNA of H. While a wide range of statistical tools have been developed for the purpose of measuring the structural properties of a social network, they do not themselves explain why the participants obtain specific structural roles or positions within the network. Therefore, relational sociology will be introduced as the theoretical basis for capturing the meaning of the network in Leviticus. In particular, it will be discussed how relational sociology pertains to the particular genre (law) and medium (text) of H. Finally, the chapter will present and discuss previous research on the participants of H in order to narrow down specific research questions to be addressed with a social network model of H.

Chapter 3 is dedicated to the study of participant resolution, or participant tracking, in order to delineate the participants of the Holiness Code. While many social network analyses of textual documents have involved manual tagging of participants, this study employs computational methods in

order to enhance the consistency of the annotations. More specifically, this study scrutinizes a complete dataset of the participants in H created by Eep Talstra (2018b). While the development of semi-automatic methods for participant tracking is an important goal in itself, the consistency of computer programs also frequently results in annotations that diverge from those of human interpreters. These cases are particularly interesting for the exegete, because discrepancies may point to complexities in the text, often not recognized by human interpreters, and even grammatical 'inconsistencies', or abnormalities, intentionally employed by the author for rhetorical purposes.

Chapter 4 is a study of the verbal event structures in Lev 17–26. The overall purpose is to identify a measure with which to quantify Biblical Hebrew verbs. It will be argued that agency is one such measure insofar as participants invest different amounts of agency in different events. The starting point of inquiry is the linguistic theory of Role and Reference Grammar (RRG) which offers a framework for deriving semantic roles from the lexical aspect of verbs, also known as *Aktionsart*. After reviewing previous research on the Hebrew verbal system with an eye to how semantic roles are thought to correlate with Hebrew syntax and morphology, new quantitative methods are proposed and demonstrated. In particular, two aspects will be argued to be critical for quantifying events, namely, dynamicity and causation, each of which are explored in depth in order to identify correlations with the morphology and syntax of Biblical Hebrew. Finally, a hierarchy of semantic roles is proposed based on the notion of agency.

Chapter 5 combines the efforts of chapter 3 and 4 to create a social network model of H. Using a variety of statistical measures, the social network will be explored in order to understand the structure of the community at large. In fact, two networks will be discussed and correlated: 1) an ordinary social network modelling participant tracking data and semantic roles (agency), and 2) a so-called 'control network' that takes into account the roles of the participants with respect to their place in the syntactic structure of the text. The last section of the chapter zooms in on a selection of participants to demonstrate the method and to consider their roles in light of the network and their concrete interactions with other participants. Finally, it will be discussed how the social network relates to and sheds further light upon the ethical and theological values embodied in the text.

Chapter 6 concludes the thesis with an overall summary of the thesis and a detailed evaluation of each of the methods applied, including participant tracking, event structure analysis, and Social Network Analysis. Finally, new trajectories for research emerging from this study will be outlined.

CHAPTER TWO

RESEARCH HISTORY AND METHODOLOGY

2.1 Introduction

How are we to read Biblical law? While the Torah has remained at the center of Jewish worship and is read continuously during synagogue services, it hardly plays any role in many Christian denominations. For the most part, the Pentateuchal laws are considered obsolete, belonging as they do to the 'old covenant'. The laws appear dry and rigid without the social and prophetic urgency characterizing the prophets of the Hebrew Bible, or the intimate, religious experiences felt in the Psalter. While most scholarly research in the modern era has been dedicated to tracing the historical origins of the laws, the last 30–40 years have witnessed an emergence of attempts to actually reading the Torah (or Pentateuch, the designation to be used in this study) as a literary composition. Leviticus has not been exempted from this development, although the book has proved harder to fit into a literary model than, for example, the narratives of Genesis and Exodus. Nevertheless, even the Levitical laws are now considered literature in that they are part of a 'story' and have been purposefully structured to persuasively convey a message. The aim of this thesis is to further this avenue of research. Accordingly, this chapter will introduce a social network model for analyzing Biblical law in terms of participants and event structures, arguably two of the most significant components of any story. The chapter is outlined as follows: In §2.2 the dominant trends of research on Lev 17–26 will be briefly introduced. §2.3 discusses new ways of reading Biblical law, while §2.4 introduces the sociological framework to be applied in the present study. In §2.5, previous research on the participants of Lev 17–26 and their roles will be reviewed in order to substantiate the research questions to be pursued by the social network analytical model. §2.6 concludes the chapter.

2.2 The Holiness Code

It was Graf (1866) who first argued for the original independence of the Holiness Code.[8] According to him, Lev 18–26 was originally an independent document authored by the prophet Ezekiel due to linguistic similarities between H and the book of Ezekiel (1866, 81–83).[9] Graf was soon supported by August Kayser (1874, 64–79) who added Lev 17 to the corpus, and by Wellhausen (1927;

[8] For an extensive review of previous research into the Holiness Code, see Sun (1990, 1–43; cf. also Tucker 2017, 10–28).

[9] To be sure, even before Graf, scholars had noted the distinctiveness of Lev 17/18–26 (e.g., Ewald 1864, 1:131–32, 140).

originally published in 1883) who popularized the view into his new documentary hypothesis of the history and religion of ancient Israel. For Wellhausen, H marked a transition between the early Deuteronomy and the later priestly document.[10] The name itself, 'Holiness Code' (*Heiligkeitsgesetz*) was first coined by August Klostermann (1893).[11] Whereas Klostermann merely used the label as a convenient reference to Lev 18–26, later generations of scholars willingly used the name as designating a coherent, pre-existing law code.[12] For more than a century, the independence and integrity of the Holiness Code as a pre-priestly document remained almost undisputed.[13] The scholarly consensus, however, was shaken when Karl Elliger (1966) contended that H should rather be seen as a series of expansions (*Ergänzungen*) to the Priestly Code (P).[14]

In 1987 Israel Knohl published his article *The Priestly Torah versus the Holiness School* (1987) which was soon to become very influential. Knohl argued that the differences between P and H were not merely distinctions or variations but discrepancies requiring the supposition of a Holiness School (HS) with a polemical agenda against P. Thus, H now became the product of post-priestly Holiness redactors. Knohl's thesis was later substantially supported by Jacob Milgrom (1991; 2000; 2001; 2003) and marked a turning point within the scholarly debate on Leviticus. A branch of scholars, including Robert A. Kugler (1997), David P. Wright (1999; 2012), Christophe Nihan (2007), Jeffrey Stackert (2007; 2009), and Reinhard Achenbach (2008), adopted and further developed the Knohl-

[10] "Jedoch die Sammlung Lev. 17–26 ist bekanntlich von diesem [i.e., the priestly redactor] nur überarbeitet und recipirt [*sic*], ursprünglich aber ein selbständiges Korpus, welches auf dem Übergange vom Deuteronomium zum Priesterkodex steht, bald diesem, bald jenem sich nährend" (Wellhausen 1927, 83 n. 1).

[11] Ironically, although the name 'Holiness Code' suggests otherwise, Klostermann did not regard H as anything but a "colorful mix of fabrics": "Daraus erklärt sich mir die unvergleichlich fragmentarische Natur, die bunte Mischung der Stoffe, der sonderbare Kontrast zwischen der in den identischen Formeln zu Tage tretenden Absicht, alles zu erschöpfen, und zwischen der wirklichen Lückenhaftigkeit, Unordnung und Unvollständigkeit des mit jener Tendenz Gegebenen, welche dem ausmerksamen Beobachter als charakterische Merkmale von Lev. 18–26 entgegentreten" (1893, 376–377).

[12] Early scholars include Wurster (1884), Kornfeld (1952), Elliot-Binns (1955), Reventlow (1961), Kilian (1963), Feucht (1964), and Thiel (1969). Most recently, Grünwaldt (1999) has revived the hypothesis.

[13] Not all scholars accepted the Graf-Wellhausen hypothesis. Hoffmann (1906, 2:380–90) contended that there was no substantive difference between P and H. Also, Eerdmans (1912, 83–87) argued that Lev 17 was not a fitting introduction to an independent law code and that the youngest parts of Lev 17–26 did not constitute a coherent whole. Küchler (1929) objected that there was no internal structure justifying the notion of an independent code.

[14] Elliger's thesis was later supported by Cholewiński (1976) who noticed a general polemics in H against the so-called priestly *Grundschrift*.

Milgrom hypothesis. Most recently, Thomas King (2009), Megan Warner (2012; 2015; 2018), and Paavo N. Tucker (2017) have argued for a HS redaction in Genesis and/or Exodus.[15]

Although the contributions of King, Warner, and Tucker indicate a growing consensus to assume the existence of a late Holiness School, the Knohl-Milgrom hypothesis has not gone unchallenged. To begin with, the redaction of H has been attributed to the final redaction of the Pentateuch rather than to HS (Otto 1994a; 1994b, 233–42; 2009; 1999; 2015). Furthermore, Baruch J. Schwartz (2009) has warned against assigning all redactional activity to HS because it undermines the identification of H in the first place.[16] The most radical critique was raised by scholars rejecting the notion of a Holiness Code altogether. Henry T. C. Sun (1990), in an extensive redaction-critical study of H, concluded that the theory of an originally independent law code in Lev 17–26 cannot be justified due to the lack of internal coherence of the chapters, the different dating of various sections, and, most importantly, that no pervasive compositional layer throughout the entire text can be identified.[17] Also Erhard S. Gerstenberger denied the existence of H as a distinct source or redactional layer and dubbed the notion of an independent "Holiness Code" as nothing more than a "wishful phantom of scholarly literature" (1996, 18).[18]

[15] King (2009) argues that the priestly narratives in Gen 1–Exod 6 were compiled by HS alongside the priestly legal material. Similarly, Warner (2012; 2015; 2018), with her focus on the ancestral narratives in Genesis, proposes that the redactional material in these texts, by some thought to be Deuteronomistic, could be attributed to HS. Tucker (2017, 29), relying on the assertion of Milgrom, Knohl, and King, among others, that Exod 6:2–8; 29:43–46; 31:12–17 should be attributed to the H-redactor due to affinities with the Holiness Code, considers all the priestly material in Gen 1–Lev 26 a so-called 'H-composition'. In addition, in his commentary on Genesis, Arnold (2009) proposes HS as the final editor of Genesis.

[16] According to Schwartz, "if all redactional activity is automatically attributed to HS, the catalogue of features associated with HS will soon come to include a number of those having no connection with H whatsoever and whose only qualification for inclusion among the literary features of the Holiness School is that they appear in redactional passages in the Pentateuch" (2009, 9).

[17] A similar critique was already raised by Noth who claimed that "Chapters 17 and following do not admit of division under major themes into sections classed according to content, as in the first half of the book. Here in general each chapter contains in itself more or less coherent groups of instructions relating to widely differing subjects" (1977, 12; cf. also Blenkinsopp 1992, 224).

[18] According to Gerstenberger, Lev 1–10 follows logically after the construction of the sanctuary narrated in Exod 35–40. The remainder of the book, however, seems to be arbitrarily ordered. For example, Gerstenberger (1996, 17) argues that one would expect the legislations on impurities (Lev 11–15; 21–22) to be placed prior to the inauguration account (Lev 8–9) rather than being interspersed around the book. Gerstenberger explains the "disparate structure" of Leviticus and other Pentateuchal material as the result of an extensive scribal process of composing the text of various sources. According to Gerstenberger, Lev 16–26 "thus seems to derive from an extended process of collection and interpretation

Similar conclusions were reached by a series of other scholars, although on a quite different basis. These scholars did not consider Lev 17–26 a mere blend of laws, nor an independent law code or a post-priestly redaction. Rather, according to Blum (1990), the unit should be considered an integral part of a priestly composition of Gen 1–Lev 26, the so-called *priesterliche Komposition*.[19] Frank Crüsemann (1992) also rejected the traditional notion of an independent H as well as Knohl's argument of a radical discrepancy between P and H. On the contrary, according to Crüsemann (1992, 323–25), Lev 17–26 is closely connected to the priestly compositional layer and the overall Sinai legislation.[20] These objections echo the early critique by Volker Wagner (1974) who posed an alternative structure of Leviticus, treating parts of H as a subunit of previous priestly material.[21] In subsequent contributions, Blum and Crüsemann have been followed by Rainer Albertz (1994; 2012; 2015) and Andreas Ruwe (1999).

The 1990s witnessed a boom of novel, synchronic readings of Leviticus. Despite their obvious differences, a common denominator for these studies was the quest for grasping the rhetorical intent of the final form of the text. In other words, far from seeing the ritual and social laws as arbitrarily scattered throughout the book, scholars began to consider these laws as purposefully employed and structured by an author or editor. Mary Douglas (1993; 1995; 1999) pioneered a new way of reading Leviticus. Since her work also relates more specifically to new literary trends, a more detailed account of her work is provided below (§2.3.1). Erich Zenger (1996a) suggested a seven-fold chiastic structure of Leviticus according to the linguistic similarities and differences in the speech-introducers in

that is no longer transparent and probably took place quite independently of the composition of the first fifteen chapters" (1996, 18).

[19] According to Blum (1990, 318–29), the occurrences of *Selbstvorstellungsformeln* ('I am YHWH') and related statements outside H (e.g., Exod 6:2–8; 12:12; Lev 11:44–45) imply that these characteristic features cannot be used to identify H as a distinct source. Blum, therefore, concluded that the distinctiveness of Lev 17–26 does not owe to its exclusive use of exhortations and *Selbstvorstellungsformeln* but rather to the concentration of these expressions within this text. Remarkably, the same observations led Knohl (1987) to argue for a Holiness School being responsible for redactions outside H.

[20] Nevertheless, Crüsemann considers Lev 17–26 "in der Priesterschrift ein relativ selbständiger Teil" (1992, 325).

[21] V. Wagner (1974, 314) divided Exod 25–Lev 25 into four major sections:

1. Blueprint and inventory of the sanctuary (Exod 25–31)
2. Rituals (Lev 1–7)
3. Cultic impurities (Lev 11–22)
4. Calendar (Lev 23–25)

Almost similar is Ska's (2001, 346–49) macrostructure of Leviticus into two major units: inauguration of the cult (Lev 1–10) and ethical prescriptions (Lev 11–27). The latter unit can be divided into four blocks: Lev 11–15; 16; 17–24; 25–27.

Leviticus as well as the subscriptions of the passages.[22] Since he subsumes chapters 16–17 into one coherent unit marked by "starke sprachliche, vorstellungsmäßige und strukturelle Querverbindungen" (1999, 64), his argument brings into question whether Lev 17 can reasonably be regarded as an introduction to H as a distinct unit.[23] Christopher R. Smith (1996) likewise proposed a seven-fold structure of Leviticus, in this case from the viewpoint of genre. Apart from noting that the legal material of the book was clustered into collections of related material, signaled by conclusions, final exhortations, summaries, compliance reports, and speech-introductions, he claimed that the material was organized at an even higher level, genre. Accordingly, C. R. Smith proposed a seven-fold structure of Leviticus based on the alternations between law and narrative.[24] A rather different approach to reading Leviticus is found in Wilfried Warning (1999) who investigated patterns of word repetitions. Apart from identifying lexical patterns within smaller textual units, he also found lexical patterns spanning larger segments of the book, even crossing the traditional boundaries between P and H. One example is the distribution of the lexeme יצק 'pour' which occurs eight times in Leviticus and, according to Warning (1999, 136–38), forms a chiastic structure.[25] Whereas the three first and the three last occurrences deal with pouring out of oil, the two middle attestations concern the pouring out of blood. According to Warning, this chiastic structure, enveloping the pouring out of blood, suggests that the distribution

[22] The seven-fold structure proposed by Zenger (1996b, 37; 1999) consists of concentric rings around Lev 16–17:

A: Sacrifices (Lev 1–7)
  B: Priests (8–10)
    C: Everyday life (11–15)
      D: Atonement (16–17)
    C': Everyday life (18–20)
  B': Priests (21–22)
A': Sacrifices and festivals (23–26; 27)

[23] Along similar lines, Britt and Creehan (2000) argued for considering Lev 16 and 17 a compositional unit. They supported their claim by suggesting that 16:30–17:11 forms a chiasm, thus effectively bridging the two chapters.

[24] C. R. Smith's (1996) suggested structure is as follows:

- Lev 1–7 (law)
  - Lev 8–10 (narrative)
- Lev 11–15 (law)
  - Lev 16 (narrative)
- Lev 17:1–24:9 (law)
  - Lev 24:10–23 (narrative)
- Lev 25–27 (law)

His proposal requires Lev 16 to be a narrative, but this is highly questionable.

[25] יצק occurs in Lev 2:1, 6; 8:12, 15; 9:9; 14:15, 26; 21:10.

of יצק is not a mere accident. The first seven instances of יצק are found in P, and the eighth is found in H; hence if the distribution of יצק is indeed evidence of a creative author/redactor, a clear-cut distinction between P and H is compromised. Finally, in his identification of a sabbatical calendar constituting the backbone of the priestly *Grundschrift*, Philippe Guillaume (2009) breaks down the traditional distinction between P and H because Lev 23 and 25 add to this calendar.[26] According to Guillaume, the sabbatical calendar ranges from the creation week (Gen 1) to the Passover celebration in Canaan (Josh 5). And while the non-sabbatical elements of the Pentateuch do not comprise a coherent narrative, the priestly sabbatical calendar – including Lev 23 and 25 – does so.[27] According to Guillaume (2009, 168), this suggests that the sabbatical calendar is not a secondary addition to the *Grundschrift* but its "*raison d'être*".

To summarize, then, the history of research on the composition and origins of Lev 17–26 shows a development not unusual for Biblical scholarship. While the vast majority of critical scholars maintained and supported the idea of an originally independent, pre-priestly Holiness Code for more than a century, the first major objections to this idea in the 1960s eventually led to a lack of consensus whatsoever. Today, scholars could hardly be more divided over this question, ranging from those who assume the Knohl-Milgrom hypothesis, almost as an axiom, and who further the thesis of a Holiness School responsible for editing most parts of Genesis–Leviticus, to scholars who propose novel suggestions to structuring Leviticus irrespective of the traditional boundary between P and H. Finally, a group of scholars has rejected both the idea of a redactional layer to be associated with H and the notion of coherence in Lev 17–26 – and in the entire book for that matter. Thus, while no one would probably question that Lev 17–26 distinguishes itself by its paraenetic style, emphasis on holiness for the entire people and its resemblance with other legal collections of the Pentateuch, there is no consensus about what to make of these features. In my opinion, however, new narratological and rhetorical reading strategies do provide significant insights into the meaning and purpose of this ancient scripture. It is to these strategies, we now turn.

2.3 Reading law

Within the last 30–40 years Biblical scholars have increasingly turned to a synchronic reading of the received text. At the same time, there is a growing awareness that the Biblical text as we now have it

[26] Guillaume argues for a priestly *Grundschrift* underlying the extant text from Gen 1–Josh 18.

[27] It should be noted, however, that in reconstructing the basic priestly *Grundschrift*, Guillaume (2009, 12) disregards intervening, non-priestly material. Thus, while the acclaimed 'coherent narrative' is argued to be a once independent source, it now appears as a redactional layer in the extant text.

is in fact literature, or a collection of literature, irrespective of how it came into existence. The same trend has spread to the research of Biblical law. While it is still common to inquire the origins of the various legal collections in the Pentateuch, an increasing number of scholars have turned to the extant collection of laws to examine their meaning and purpose as a piece of literature. Moreover, it has been the task of several studies to inquire the meaning of the curious fact that Pentateuchal law is embedded in a large narrative. Thus, rhetorical criticism and literary criticism have become important analytical tools for investigating the purpose of Biblical law within its literary and historical context.[28] It is the purpose of this section to review the most crucial rhetorical-critical and literary-critical contributions to the study of Leviticus.

2.3.1 Leviticus as literature

Historical-critical scholarship had (and has) a tendency to distinguish narrative and law, often considering the narratives of the Pentateuch as the earliest layers and the laws as later expansions. Literary criticism, on the other hand, is occupied with the extant text and is aimed towards inquiring the meaning of the text at large. From a literary point of view, then, Leviticus is a book in a five-book collection, the Pentateuch.[29] Even more so, Leviticus is commonly seen as the central book around which the storyline of the Pentateuch evolves (Zenger 1996b, 36). The book is framed by wilderness accounts, describing the exodus and arrival at Sinai (Exodus), and the departure from Sinai (Numbers). An outer frame depicts the creation and promises of the land (Genesis) and instructions for living in the promised land (Deuteronomy). These frames set the Sinai revelation in Leviticus at the center of the entire Pentateuch. Numerous proposals as to the structure of Leviticus have been made. Some consider the inauguration of the cult as the climax of Leviticus (J. W. Watts 1999; 2013; Ruwe

[28] "The techniques of literary criticism are necessary to appreciate the organisation of a piece of literature, the ideas it embodies, and the standpoint of the writer. Rhetorical criticism links the concerns of literary and historical criticism. It attempts to show how an author writing in a particular context organised his work to try to persuade his readers to respond in the way he wanted" (Wenham 2000, 3).

[29] Whether Leviticus is a book in its own right or is the result of a somewhat arbitrary division of the Pentateuch into five pieces is the topic of much scholarly debate. For one thing, the narrative of Leviticus is part of the Sinai story (Exod 19:1–Num 10:10) (cf. Ruwe 2003), as indicated by the opening sentence of Leviticus, וַיִּקְרָא אֶל־מֹשֶׁה 'and he called upon Moses', a narrative form without explicit subject, a rather unusual introduction to a book. This train of thought has led to the argument that the five books of Moses do not form a Pentateuch but a Triptych, and that Exodus-Leviticus-Numbers is just one book (Koorevaar 2008). On the other hand, it has been argued that Num 1–10 is related more closely to Exod 19–40 than to Leviticus, and that the division of the Pentateuch into five books bears on thematic and conceptual differences (Nihan 2007, 69–74; Blum 1990). Moreover, a number of studies have proposed separate structures for Leviticus, assuming the book to form a cohesive whole (Douglas 1993; 1995; 1999; Zenger 1996a; C. R. Smith 1996).

2003), others the Day of Atonement (C. R. Smith 1996; Warning 1999; Zenger 1996b; 1999; Jürgens 2001; Morales 2015), and others the 'holiness chapter', chapter 19 (Douglas 1993; 1995; 1999; Kline 2005; 2015). Nihan sees a linear development of "Israel's gradual initiation (by Yahweh himself) into the requirements of the divine presence" in three successive stages: 1) the public theophany as a divine response to the inauguration of the priesthood (Lev 9:23–24); 2) the theophany inside the inner sanctum (Lev 16:2); and 3) the promise that YHWH will walk in the midst of his people (Lev 26:12) (2007, 109). Thus, the debate on the structure of Leviticus and its role within the composition of the Pentateuch is far from settled.

More generally, literary and narrative approaches tend to struggle with the fact that laws comprise the vast majority of the text in Leviticus. In his commentary on the Pentateuch, John H. Sailhamer (1995; originally published 1992) exposited the five books of the Pentateuch as a narrative by emphasizing narratological devices, such as parallel structures, narrative plot and recurrent *Leitwörter*.[30] This approach works well in Genesis and Exodus which are predominantly formed by narratives. As for Leviticus, Sailhamer demonstrated a number of significant parallels between the primeval history (Gen 1–11) and Leviticus. Thus, according to Sailhamer, the narrative of Leviticus is purposefully crafted as a continuation of the story begun in Genesis. Nevertheless, Leviticus is not lent much space in the commentary in comparison to Genesis and Exodus, probably due to the fact that Leviticus is considerably more difficult to interpret with traditional narratological tools.[31]

Acknowledging the deficiencies of narratological readings, other strategies were applied to capture the structure and message of Leviticus. The forerunner of this trend was Douglas (1993; 1995; 1999) who advanced the idea of 'analogical reading'. According to Douglas (1999, 15–20), Leviticus has been completely misunderstood because the structure and the rationale of the book were inquired from a Western point of view. While Westerners are used to reason in terms of causality, logical entailments, and abstractions, analogical reasoning works through correlations, that is, one phenomenon is given meaning by its correlation to another phenomenon. By implication, meaning evolves gradually and circularly and not according to a linear, narrative plot. According to Douglas, the most significant analogy with which to capture the deeper meaning of Leviticus is the analogy of the Tabernacle. In particular, she argued for structuring Leviticus according to three concentric rings

[30] As an example of Sailhamer's narratological hermeneutics, repetitions are interpreted as rhetorical means by which it is emphasized that "the matter has been firmly decided by God and that God will act quickly to bring about his promise" (1995, 143).

[31] The same critique can be leveled against the narratological readings by Clines (1978) and Mann (1988), cf. J. W. Watts (2013, 48).

correlating to the three-partite division of the tabernacle. In light of this analogy, it is not surprising that the theme of holiness, normally attributed to the Holiness Code, is far more explicit in the latter half of the book. By analogy, in chapters 18–20 the reader has now entered the Sanctum from the courtyard of the sanctuary and, in 25–27, to the Holy of Holies.

Douglas' proposal has not gone unchallenged, but she certainly became a great inspiration for interpreters of Leviticus.[32] A decade later, Moshe Kline (2008; 2015) likewise proposed to structure Leviticus according to three conceptual rings, seeing chapter 19 as the centerpiece – the 'fulcrum' – of Leviticus. According to Kline (2015, 243), the 'fulcrum' is surrounded by three concentric rings, an inner ring (Lev 16–18; 20:1–22:25), a middle ring (8–12; 22:26–24:23), and an outer ring (1–7; 25–27). By delving into Leviticus, the reader gradually approaches the Holy of Holies by analogy to the Tabernacle. Thus, like Douglas, Kline argued that the book should not be read linearly but according to its conceptual rings and the textual 'weave' they constitute. The intriguing structures proposed by Douglas and Kline have not met widespread recognition. One reason might be that Douglas' three proposals were all different, indicating that an analogical reading is somewhat subjective and lacks linguistic evidence. Moreover, it is curious that Leviticus never explicates the analogies in contrast to other ancient literature (cf. J. W. Watts 2013, 49).

Nevertheless, narratological and analogical readings of Leviticus paved the way for a new appreciation of Leviticus as literature. Although none of the paradigms reviewed above have gained widespread recognition, they signal the beginning of paying more attention to narratological and rhetorical features and of appreciating the entire text with its curious mix of rituals, social laws, speeches, narratives, and exhortations.

2.3.2 Law as rhetoric

Rhetorical analysis of Biblical law is another strategy for reading the extant text and grasping its meaning and intention. However, whereas narrative approaches tend to prioritize the narrative storyline of the text, rhetorical analysis does not necessarily prioritize one genre over the other. Indeed, one strength of rhetorical analysis is its potential for revealing how different genres work together rhetorically in the final form of the text. In his *Reading Law* (1999), J. W. Watts explored the rhetoric of the Pentateuch, in particular with respect to the rhetorical effects of combining narrative, laws, and exhortations. According to J. W. Watts, the combination of narrative (story) and law (list) is one of the strongest features in the persuasiveness of the Pentateuch. Drawing upon the work of John D.

[32] The novel ideas of Douglas occasioned the anthology *Reading Leviticus: A Conversation with Mary Douglas* (1996). For critical evaluations of Douglas' approach, see J. W. Watts (2007, 15–27) and Nihan (2007, 84–85).

O'Banion (1992), J. W. Watts (1999, 38–39) argued that laws and narratives are interdependent in order for achieving the highest possible level of persuasion. While lists are powerful tools for systematic expressions of any kind, including laws, they need the justification and explanation provided by narratives. Narratives, although not void of ethics, cannot stand alone if they are to persuade because they do not directly dictate or prohibit any action.[33] Thus, "The story alone may inspire, but to no explicit end. The list alone specifies the desired actions or beliefs, but may not inspire them" (1999, 45). Besides these two elements, J. W. Watts (1999, 45) points to divine sanction as a third component of Pentateuchal rhetoric. The Pentateuch appeals to YHWH and his blessings and curses as rhetorical means to impress the audience. This phenomenon is especially apparent in Deuteronomy but also in H which is concluded by an appeal to the audience for obedience to the law by means of invoking divine sanctions (Lev 26). The priestly legislation (Exod 25–Num 9) at large makes use of all three rhetorical components, although it is dominated by list (1999, 52–55). While the lists describe the ideal priesthood and ideal community in blessed coexistence with YHWH, the narratives intruding the lists illustrate the dangers of disobedience. The only exception is Lev 8–9 which, according to J. W. Watts, is the climax of the entire Pentateuch and "narrates the fulfillment of the priestly ideal in the Tabernacle worship" (1999, 54). The idealism and the warnings come together in Lev 26 although the warnings occupy most of the space. However, by reference to YHWH's promises to the ancestors (Lev 26:42–45), the entire discourse "becomes more than a statement of obligations enforced by threats; it unveils a vision of hope grounded in YHWH's covenant commitment to Israel" (1999, 55). The same three components can explain the structuring of the Pentateuch as a whole, beginning with the long stretches of narratives in Genesis and Exodus, followed by the priestly legislation and concluded by the divine sanctions in Deuteronomy. The "intent and effect" of this composition, along with other rhetorical devices, are to "persuade readers to accept it as *The Torah* and use its norms to define themselves as Israel" (1999, 156; italics original).[34] According to J. W. Watts, then, although the composition of the Pentateuch is complex and its origins even more so, the narratives, laws, and exhortations together "create the rhetorical force of Torah" (1999, 88).

[33] Wenham's *Story as Torah* (2000) is a similar account of the relationship between law and narrative, yet from the opposite perspective. In his book, Wenham explores the books of Genesis and Judges with an eye to their ethical implications. His work also illustrates that narratives require more (and a different kind of) interpretation in order to grasp their underlying ethical messages than do law texts.

[34] As for Leviticus, J. W. Watts argues that its rhetorical intent is "the authority of Torah and the legitimacy of the Aaronide priests' monopoly" (2013, 98). It has been questioned, however, whether the Pentateuch (Leviticus in particular) was in fact composed by Aaronide priests to legitimate their monopoly (Gane 2020). And after all, the priests do not play the most significant role in the social network implied by Lev 17–26 (to be discussed in §5.5.4).

The rhetoric of law and narrative has also been explored from the perspective of ritual theory, in particular by Bryan D. Bibb in his *Ritual Words and Narrative Worlds in the Book of Leviticus* (2009). While synchronic approaches to Biblical literature have sometimes – if not often – been aimed at smoothing out the 'knots' of the texts, it is safe to say that Bibb goes in another direction. According to Bibb, the literary quality of Leviticus as it now stands is indeed due to its internal tensions that have so often tempted modern critics to drive fissures into the book. One of the most striking features of Leviticus is its blend of narrative and ritual. That is, Leviticus contains narrative descriptions of rituals but also seemingly timeless prescriptions of ritual performance. Thus, Leviticus cannot be reduced to either descriptive or prescriptive, narrative or law. As Bibb puts it,

> Leviticus is not a priestly manual, a descriptive account of ritual behavior, or a fictional narrative with literary purposes. Actually, to some degree it is all of these things, but none of them define the book. These various generic elements interact in the final mix of the book to form a genre called here 'narrativized ritual'. (Bibb 2009, 34)

The blend of narrative and (ritual) law is not supposed to negate each other. As Bibb describes, the implied reader of Leviticus, the later Israelite, reads a description of rituals to be performed by his ancestors. However, the laws are not merely descriptive but "normative descriptions of the past" (2009, 37). Put differently, "historic instructions to the ancestors function as ongoing requirements for the descendants" (2009, 37). Thus, with its narrative style the text creates a gap between past and present, but at the same time it also bridges the gap by connecting the reader with the glorious past of the ancestors. In the words of Bibb, "The interplay between ritual and narrative construct a ritual world in the past that the present reader can inhabit, creating a literary world in which temporal distinctions are meaningless" (2009, 57). Bibb also addresses the visible tension between the two halves of Leviticus. Whereas chapters 1–16 predominantly restrict holiness to the priestly domain, chapters 17–27 broaden holiness to a quality to be strived for by the entire community, most explicitly stated in 19:2 "You shall be holy, because I, YHWH your God, am holy," addressing the whole congregation. While the borders of holiness are thus transcended, the old borders still remain. On the one hand, the entire community is to be holy, and all of the Israelites are responsible for adhering to the law, for example, to distinguish clean and unclean animals. On the other hand, even in H, the special requirements for priests still remain.[35] This tension suggests that the cultic holiness established in the first

[35] There are precise regulations for when the priests can access the altar (Lev 22:1–9), and lay people are certainly not allowed. There are strict rules as to whom the priests can marry (21:7), and even stricter rules for the high priest (21:13–15). For a general account of the priestly conception of holiness, see Jenson (1992).

half of Leviticus is maintained in the latter half alongside an apparent conflation of the concept. Thus, holiness is a dynamic concept creating a tangible tension in the text. According to Bibb, far from undermining the literary quality of Leviticus, the tension rather adds to it:

> The temptation has been to draw the contrast between these two sections (P and H) too sharply, and to see each as part of its own theological and social world. Rather, the second half of the [*sic*] Leviticus addresses different topics while using much of the same language, giving rise to a dynamic tension through which each half of the book transforms and interprets the other. (Bibb 2009, 164)

Thus, in a ritual reading of Leviticus, the gaps, tensions, and inconsistencies of the text do not negate the book as a piece of literature. Rather, according to Bibb, "the text consciously presents itself as complete, rational, and reliable" (2009, 165).

Another important study of law and narrative is Assnat Bartor's dissertation *Reading Law as Narrative* (2010). By combining narrative theory and cognitive psychology, Bartor analyses the narrative features of Pentateuchal casuistic laws.[36] According to her, these laws are apt for a narratological interpretation in that they contain conflict and resolution, events and participants. As such, these laws are in fact "miniature stories" (2010, 7). By recording the inner thoughts and emotions of the participants, direct speeches, and the attitudes of the lawgiver within the individual case laws, an illusion of reality is created "by means of imitation (i.e., *mimesis*)" (2010, 85; italics original).[37] The reader or hearer of these laws can sympathize with the involved participants and be persuaded by the justice of the lawgiver for the purpose of obedience (2010, 184). Bartor surveys the 'participation' of the lawgiver and the addressees in the laws. Fundamentally, "The delivery of the laws is an event involving an encounter between the lawgiver and the law's addressees" (2010, 25). Most commonly, the encounter is established by a speech act by which the addressees are addressed by the lawgiver.

[36] Casuistic laws, or case laws, are laws that are conditional in nature and contain a protasis (the condition) and an apodosis (the legal consequence). By contrast, the so-called apodictic laws are unconditional and simply command or prohibit a particular act. The terms "casuistic law" and "apodictic law" were originally coined by Alt (1967). In her definition of case laws, apart from laws following a strict casuistic pattern, Bartor also includes laws which present legal cases in an unordinary manner, e.g., by referring to the addressees directly in 2nd person instead of the regular 3rd person address, or by introducing the case with a relative clause instead of the regular prefatory conjunctions כִּי 'when/if' or אִם 'when/if'.

[37] "The ability to create an illusion of reality by means of imitation (i.e., mimesis) is one of the signal characteristics of narrative. A vivid and dramatic description of the events in which the characters participate affords readers the illusion that they are seeing things with their own eyes, and direct transmission of the characters' conversation produces the (false) sense that they are hearing their voices. Reducing the narrator's role, as it were, to showing or voicing, gives the written text the ability to mimic the verbal and nonverbal events that make up reality" (Bartor 2010, 85).

However, other types of interaction occur as well. In her brief account of the Holiness Code, Bartor notes that one characteristic feature of H is the permanent presence of the lawgiver. The addressees are constantly reminded of the lawgiver (e.g., "I am YHWH your God"), and the lawgiver (YHWH) frequently promises to personally punish perpetrators of the law (e.g., Lev 17:10; 20:3, 5–6; 23:30), as well as claiming actions for the benefit of the addressees, for example the exodus (19:36; 22:33; 23:43; 25:38, 42, 55; 26:13, 45). Importantly, the 'presence' of the lawgiver and the interactions between the lawgiver and the addressees establish, or strengthen, a relationship between the two parties: "The participation of the lawgiver and of the addressees is the concrete embodiment of their relationship, for which the law (among other means) is a vehicle" (2010, 57).

Bartor's narrative reading of Biblical law reflects a view on law where legal texts are treated as social literature. In other words, law is "a way of speaking about people and about the relationships between them" (2010, 2). Thus, while laws often employ formal and abstract language, they have implications for concrete people in specific situations. As Bartor explains:

> All laws deal directly or indirectly with human affairs. They deal with realistic events that occur in time and in space and use true-to-life characters to establish norms and formulate policy. Laws present and represent stories about people, about their property and their ties to their communities, and about interpersonal relationships and the relationships between communities. (Bartor 2010, 5)

Although this view of law does not exhaust the concept of law, it allows for exploring legal texts as something more than mere lists of rules. The laws are related to a metanarrative and convey experiences and values.[38]

2.3.3 Summary and implications for the present study

Recent years have witnessed a range of new readings. Some of the first to explore new approaches were Biblical scholars studying the narrative framework of the entire Pentateuch. Although they inspired a new generation of Biblical scholars to study the extant text, it was soon apparent that traditional narratological readings of Leviticus do not suffice. After all, Leviticus is not a narrative in the normal meaning of the word. Other interpreters proposed chiastic structures of the text as a means to

[38] As Morrow phrases it, "Law always has a narrative function, in that it 'tells a story' about what a particular society values, about who is an insider and who is an outsider, how the society is organized, and what it does when faced with certain forms of social disruption. By the same token, stories can be 'law' in that they have a prescriptive function: they can inculcate values and norms of behavior that are as binding as any set of rules. Both functions come together in the first five books of Moses" (2017, 43).

grasping its deeper meaning, not apparent from a linear reading of the text. Yet another group of scholars inquired the rhetorical features of the text, assuming some literary quality of Leviticus and an intentional structuring of the text.

Despite their different approaches, each of the studies surveyed above emphasizes the literary qualities of Leviticus. In its final form, Leviticus is purposefully structured and employs narratological and rhetorical devices in order to persuade its readers to accept and adhere to the message of the text. The present study will add to this trend of research by analyzing the participants of Lev 17–26 as well as their internal relationships. To some extent, the study follows Bartor's sociological approach. Bartor's strategy, however, was limited to the consideration of casuistic laws because they exhibit the most narratological traits attested in Biblical law. On the other hand, apodictic laws deal equally with human affairs and are embedded in the same narrative contexts as the casuistic laws. Therefore, to represent a fuller scope of Biblical law and its social implications, we need to employ a less generic framework. In what follows, I shall introduce the sociological framework required for capturing the social dimension of Lev 17–26, not only as a collection of laws but as a structured document with narratives, laws and exhortations.

2.4 Leviticus and relational sociology

As explained above, the reading strategy adopted for this study is to conceive Leviticus as a book that employs laws as well as narratives and exhortations to tell a story. The most important 'building blocks' of any story are its participants and the events happening among the participants. It is the participants with which we identify and sympathize (or despise), as we delve into the world of the story. Over the course of the story, the participants undergo change as a result of their experiences and involvements in various relationships. The participants are described in specific contexts and involved in interactions which affect their internal relationships and their community. Conflicts are the results of interactions gone wrong, whereas resolutions are new interactions restoring the community. In other words, the participants of a story, including that of Leviticus, form a network where the behavior of one participant or an alliance or conflict between two participants affects the entire network. In order to analyze the 'story' of the Holiness Code, I shall analyze its participants and their interactions by applying Social Network Analysis (SNA). While a detailed and more technical introduction to SNA is postponed to chapter 5, at this point it is relevant to consider how SNA yields meaning from a network of participants, and how SNA applies to a text like the H.

2.4.1 Relational sociology

By itself, SNA is not an apt candidate for literary analysis. Social network analysts have dubbed SNA simply as "a collection of theoretically informed methods" (Scott 2017, 8) or "a comprehensive new family of analytical strategies, a paradigm" (Emirbayer 1997, 298). Thus, while we can apply SNA to visualize the community of participants as a graph and compute the structural positions and network roles of the participants, these statistical tools do not provide any explanation or meaning to the network. By 'meaning', I refer to *why* people interact as they do in some relationships and differently in other relationships. Or, put differently, *why* participants attain specific roles. In order to avoid the fallacy of structuralism – that is, structure itself is the meaning – social network theorists have increasingly drawn upon the mindset and philosophical underpinnings of relational sociology (e.g., Groenewegen et al. 2017).[39] Relational sociology is best understood by comparing it to a substantial thinking of entities and communities. Substantialists treat individuals (and systems) as self-contained, independent substances and as the starting point for viewing society. These independent substances are thought to have qualities that exist prior to social interaction, such as power, agency, and causality. That is, according to this thinking, power is viewed as an innate quality and not as the result of concrete social interaction between two or more persons struggling for power. Within Western philosophy, substantialist thinking can be traced back to Aristotle who thought of entities in terms of discrete categories. A similar thinking is found in the recent publication *Individualität und Selbstreflexion* (2017) which shows an interest in the literary construction and conception of individuals in the Hebrew Bible. Although perhaps not representative of the opinion of all contributors to the anthology, Bernd Janowski (2017, 339) argues that the social role of a person can be deduced from the correlation between the inner person (the self) and its outer expressions (name, tattoos, clothes, and personal objects).[40] By contrast, relationalists reject any notion of discrete, independent substances as a starting point for sociological analysis (Emirbayer 1997). Indeed, "Individual persons […] are inseparable from the transactional contexts within which they are embedded" (Emirbayer 1997, 287). By 'transactional', Mustafa Emirbayer seeks to convey the notion of a dynamic situation within which the entities derive their identity and meaning from the roles they play in that situation. A transaction need not be a transfer of physical goods but any exchange between two entities, be it conversations or non-

[39] For general introductions to relational sociology, cf. Dépelteau (2018) and Donati (2011). Relational sociology is typically attributed to Harrison C. White (2008; originally published in 1992).

[40] In another contribution, however, Schellenberg (2017, 382) argues that the focus of Biblical law is not on individuality (in the sense of self-reflection) but on conformity to the demands of the social group and the legislator. This approach aligns better with relational sociology.

verbal gestures (Gibson 2005). By means of transactions, the 'identity' and the 'meaning' of the participants are constantly negotiated in the ever-changing contexts of interaction. In short, relational sociology, seeks to balance individual and community without putting excessive emphasis on either of these extremes. As a result, the smallest object under investigation is therefore not the individual but two individuals in some kind of interaction. (Instead of 'individual', the entities under investigation may also be communities). Accordingly, the power of an individual is thought of as the product of interaction rather than some innate quality: One participant seizes power by means of a particular interaction with another participant. Pierpaolo Donati (2017) places a relational thinking between a methodological *holism* (the social as an expression of a system) and a methodological *individualism* (the social as the product of individual conduct). This balance can also be expressed empirically: On the one hand, no one can fully control social processes. On the other hand, no one is completely determined by existing social patterns (Dépelteau 2018). What follows from this observation is that concepts such as power, equality, and agency are not something to be held by an individual and brought into concrete social settings. Neither are the individuals predetermined by the structure of the community to be powerful or equal. On the contrary, equality is the outcome of social interaction; that is, "Inequality comes largely from the solutions that elite and nonelite actors improvise in the face of recurrent organizational problems" (Emirbayer 1997, 292).

Interactions do not occur arbitrarily or in a void. Rather, they are guided by expectations. This fact is most clearly illustrated in trade transactions. These transactions are guided either by expectations as formulated in concrete contracts or expectations based on previous experiences, for example, the cost of goods in previous transactions (Fuhse 2009, 52). The same principles essentially apply to all other social relationships. Expectation generally permeates two levels: 1) "interpersonally established expectations and cultural forms"; and 2) "individual perception and expectations" (Fuhse 2009, 53).[41] Accordingly, the 'meaning' as to why individuals act in a particular way is a complex interplay of interpersonal (cultural) expectations and individual expectations. Adding to the complexity, the ever-changing network and fluid structural roles of the participants imply yet another component to the relationalists' thinking of networks, namely, time. The pioneer of relational sociology, Harrison C. White, advanced the idea of a "narrative of ties" in order to capture the phenomenon that ties are constructed and reconstructed over time (1992, 67; quoted in Mische 2014).

[41] McLean explains culture as follows: "The term culture is one of the most complex terms in the social sciences to define, but we can understand it broadly to refer to the knowledge, beliefs, expectations, values, practices, and material objects by means of which we craft meaningful experiences for ourselves and with each other" (2017, 1).

To summarize, then, relational sociology implicates that 'meaning' and social roles are not seen as predicated by the society at large or something to be seized by the individual. Rather, the roles of individuals are attained through transactions. The transactions themselves are guided by personal and interpersonal (cultural) expectations, and the roles of the participants are thus open for (re)negotiation. A relational view on social networks therefore implicates notions of dynamic transactions, personal expectations and subtle cultural and interpersonal expectations. These notions have been neglected in most social network analyses, as researchers have primarily focused on structure and whether participants are related or not. To counter this structuralist bent, Fuhse (2009) has called for increased focus on the content of relational ties, as well as on inquiring the personal expectations involved in transactions. However, Fuhse also claimed that the inner processes of the individuals involved are less important than what is actually transferred within the social network. Relational sociologists have proposed a variety of ways in which culture and networks can be connected, from considering social networks as conduits for culture (i.e., culture is outside the network and conveyed by the network) to seeing networks as constituted by culture (cf. Mische 2014).

A relational approach poses particular challenges for analyzing social structures and social roles based on an ancient text like Leviticus. One can hardly inquire the psychological expectations of the participants involved, nor fully apprehend the cultural forms of the relational ties. Deriving meaning from a text is thus more complicated than regular sociological fieldwork where quantitative data can be enriched with qualitative interviews. Moreover, the interactions and internal relationships between the participants are 'fixed' in the text; hence, in this particular sense, the text is static in contrast to real-world networks. We therefore need to ask how meaning can be derived from the social network of a text.

2.4.2 Social Network Analysis of legal texts

A written text is fixed and comprehensive. The text is comprehensive in the sense that it provides a natural boundary for analysis. A finite number of individuals and interactions are recorded, and it would normally be meaningless to look for additional interactions. The present study focuses on Lev 17–26 which attests 59 participants and 479 interactions (cf. chapter 5). Obviously, more participants and more interactions could be added to the network, had the object of inquiry been expanded to include the rest of Leviticus or the Sinai-story (Exod 19:1–Num 10:10) or other parts of the Pentateuch. In any case, one has to make an informed choice as to the extent of the object. For this study, a case can be made for the literary distinctiveness of Lev 17–26 given its focus on holiness and the community and due to its higher frequency of exhortations in comparison to the surrounding material

of Leviticus. Thus, although the classical distinction between P and H has been challenged in recent times (cf. §2.2), no other structuring of the book has found widespread recognition.

As any other text, H presents a certain perspective on the social community implied by the text, and the interactions recorded naturally represent the author's view of the relationships.[42] If the text indeed represents a real social setting, the participants would certainly have been involved in other interactions not recorded in the text, and they might have viewed the other participants differently than the author. These constraints do not negate the value of the text. As a historical text, Leviticus provides a glimpse of social life in the ancient Near East. Obviously, like any other text, Leviticus presents a subjective view on history, and other historical documents may present alternative views. However, the unescapable subjectivity is not so different from the typical domains of interest for social network analysts which typically begin their analysis by recording the viewpoints of individuals. A historical, written text is extraordinary because it ultimately presents one viewpoint, namely the author's viewpoint. This fact has an important implication. Due to the fact that Leviticus is a law text, it necessarily expresses the *expectations* of the lawgiver. Here is an important connection to relational sociology which emphasizes that expectations guide transactions and that expectations are molded by the culture. Simply put, the law text is an expression of the lawgiver's expectations, that is, his value system and the 'meaning' he ascribes to his social world. More concretely, we must distinguish between the implied social community and the author's expectations. On the one hand, it is clear that H is not a prescription of how the implied community should be organized. Rather, it assumes the existence of a priestly class, laypeople, foreigners, among many other participants. Besides, the legislation also assumes various interactions. For example, it is entirely reasonable to assume that the blasphemer's cursing runs counter to the values and expectancies of the author (Lev 24:10–23). On the other hand, the author of H clearly has certain expectations as to how the participants must behave in particular situations. With regard to the blasphemer, the author clearly expects and applauds capital punishment for blasphemy, at least within this concrete context. Thus, we must distinguish between the implied social network and the theological and ethical expectations of the author. Put differently, the author does not present an ideal community but prescribes certain interactions within the implied less-than ideal society. With this distinction in mind, we can scrutinize the author's expectations in light of the implied social network.

[42] Even if one regards Leviticus as a compilation of different sources, the viewpoint of the extant text is that of the final redactor. The redactor may depend on the viewpoints of the sources to his or her text, but the choice of collecting the sources and shaping the text is essentially a creative choice made by the redactor.

In an early essay, Lon L. Fuller (1969) explored the relationship between law and human interaction. According to Fuller, there are essentially two kinds of law. On the one hand, there is declarative law, which is probably the kind of law most people would intuitively think of as 'law', namely, an official, written decree. On the other hand, there is customary law which is not the product of legislators but is a subtle code of conduct that governs our behavior towards one another. It is the latter type of law to which Fuller's essay directs most of its attention. Customary law, then, is an unwritten code of conduct, enforced through interaction. Indeed, it is "a language of interaction" (1969, 2). As a code of conduct, customary law regulates the behavior of individuals, often in an unconscious manner. The code is unwritten and implicit, but everyone knows when the code has been violated. The name of the law may be ill-chosen, as 'customary' may seem to imply an obligation arisen through mere repetition or tradition. Fuller proposes the definition "a system of stabilized interactional expectancy" which refers to a situation where the participants act according to a sense of obligation based upon certain expectancies for right behavior (1969, 9–10). The expectancies need not be explicit. In fact, they typically only become explicit when they are violated, or when an 'outsider' enters the scene. Another way of putting it, customary law is "a program for living together" (1969, 11), and customary law achieves this program by interlocking the individuals of the society into fixed roles of right behavior. Fuller's view on law as based upon expectations is important because it aligns well with relational sociology. Recall the relational view on the meaning of social networks as expressed through personal and interpersonal expectations. The implicit purpose of customary law is to facilitate interaction by leveraging personal and interpersonal expectations in order to fix the individuals into social roles according to the value system of a particular culture. Now, Leviticus is not a customary law, but the interactional principles still hold. The genre of Leviticus is best described as 'common law', that is, a collection of laws comprised of real-life cases (Berman 2017).[43] In essence, the legal cases are interactional insofar as they prescribe behavior of individuals

[43] Berman (2017) argues that Biblical law is common law, that is, Biblical law is not a fixed and exhaustive 'code' like modern codes to which judges have to refer when deciding on concrete cases. According to Berman, "Within common-law systems, the law is not found in a written code which serves as the judges' point of reference and which delimits what they may decide. Adjudication is a process whereby the judge concludes the correct judgment based on the mores and spirit of the community and its customs. Law gradually develops through the distillation and continual restatement of legal doctrine through the decisions of courts. When a judge decides a particular case, he or she is empowered to reconstruct the general thrust of the law in consultation with previous judicial formulations. Critically, the judicial decision itself does not create binding law; no particular formulation of the law is final. As a system of legal thought, the common law is consciously and inherently incomplete, fluid and vague" (2017, 109–10). The characterization of Biblical law as common law implies that Israelite judges would not consider the laws as a "source" to be explicitly referred to, but rather

in specific contexts. Therefore, as Fuller (1969, 26) argues, common law is more deeply rooted in human interaction than modern law. A reading of Lev 17–26 confirms this view. In fact, the text is composed of divine speeches to Moses who mediates the speeches to the Israelites and the priests. As for the laws themselves, they are concerned with the relationship among the Israelites as well as the relationship between the Israelite community and outsiders. From a modern point of view, it may seem odd to analyze the social network of a law text. However, given the interactional nature of common law, it makes perfect sense.

2.4.3 Summary

The participants of the Holiness Code interact with one another and thereby form a social network. It has been argued that relational sociology provides a strong theoretical framework for scrutinizing the roles of the participants in light of those concrete interactions recorded in the text. The roles are neither predicated by the society nor innate qualities of the participants but rather the product of ongoing negotiations among the participants. Several constraints were noted to adapt this framework to a law text like H. For one thing, the reader does not have access to the personal expectations guiding the interactions of the participants, apart from the text itself. Thus, a network study of a law text is not concerned with the expectations of the participants but with the expectations of the author who is responsible for the characterization of the participants. This approach is not unlike other interpretative strategies which ultimately inquire the author's intention of the text. Moreover, as a law text, H reflects a social community and aims at constraining the behavior of its members. In that sense, the text is both descriptive and prescriptive. It describes certain events but also prescribes certain actions to be taken in these circumstances. Ultimately, we can expect the law text to reflect the author's view on how the implied society ought to be. Therefore, by capturing the interactions of the text, we can model the implied society of the text as a means to observing the theological and ethical values implied by the author.

a "resource" to consult (2017, 210). Thus, the purpose of Biblical law is not to provide an exhaustive source of laws to be applied in real cases but to be a resource to inform the ethical values of the judges. Bergland's (2020) characterization of Torah (understood here as a genre) as 'covenantal instruction' is important in this respect. By 'covenantal instruction' is meant that the Torah is not legislative in the modern sense (cf. Berman), but that it certainly remains normative. According to Bergland (2020, 99), the normative dimension explains why there are so many literary parallels between the legal corpora of the Pentateuch.

2.5 The participants of Lev 17–26 and their roles

The Holiness Code contains 59 human/divine participants (cf. chapter 5). A few of these are named, but most are anonymous or hypothetical, indefinite persons (e.g., the recurrent reference to אִישׁ 'anyone'). This study is certainly not the first one to explore the roles of these participants, but it has been common to explain the role of a participant with respect to one or two other participants (most frequently YHWH and the addressees of the text, the sons of Israel) or to a concept (e.g., holiness or purity). This is at least one of the reasons that scholarly work on the participants of H has come to diverging results. In this section, previous work on the participants will be reviewed in order to qualify the research questions to be pursued by the SNA. Much scholarly work has focused on historical questions or more general portrayals of the participants, not necessarily restricted to the Holiness Code.[44] Those studies will not concern us here, as the present study regards the literary roles of the participants within the Holiness Code.

2.5.1 The addressees

The speeches comprising H are addressed to the בְּנֵי יִשְׂרָאֵל 'sons of Israel', as well as the priests, Aaron and his sons (e.g., 17:2). To be sure, some speeches are addressed exclusively to Aaron and/or Aaron's sons (21:1, 17; 22:2), while other speeches refer solely to the sons of Israel (e.g., 18:2; 19:2; 20:2). The role of the priests will be discussed later (cf. §2.5.5); hence, by 'addressees', I refer here to the sons of Israel. Within the speeches, the sons of Israel are commonly addressed by 2MPl and 2MSg references. This *Numeruswechsel* has received much attention in the scholarly research of H. The question is whether the *Numeruswechsel* should be seen as indicative of sources and redactional activity during the composition of the text, as has been the traditional understanding,[45] or whether

[44] Hence, although much work has been dedicated to the study of YHWH and Moses in the Pentateuch, their roles have rarely been discussed with respect to H. One exception is Bibb (2009, 159–63) who offers a brief discussion of the triangular relationship between the Israelites, the priests, and YHWH. YHWH is characterized as representing "the sacred principle at the heart of society" on which the coherence of the society depends (2009, 163). J. W. Watts (1999) has a short notice on the characterization of YHWH in H as part of a larger exposition of the "rhetorical characterization" of YHWH in the Pentateuch. According to J. W. Watts, at this point in the Pentateuch the "divine name […] has become richly evocative of the layers of characterization provided by preceding texts," including the depiction of YHWH as the savior of Israel, cult-founder, holy God, and protective overlord (1999, 102). More generally, J. W. Watts focuses his discussion on how the Pentateuchal laws inform the image of God in relation and contrast to the narrative sections of the Pentateuch.

[45] *Numeruswechsel* became a fundamental interpretative key in the form-critical approach advanced by Von Rad (1953) who identified a number of forms in Lev 19 based on grammatical person and number, e.g., vv. 9–10 (2MSg) and 11–12a (2MPl). Apparently, these forms were collected by a redactor, the so-called *Prediger*, who also sometimes added paraeneses to address the community. Kilian (1963, 57–63), although not basing his source- and redaction-critical analysis

participant shifts are intentional, rhetorical devices with specific meanings attached to them. Today, the tendency to propose sources or redactions on the basis of *Numeruswechsel* is decreasing. For one thing, archaeologists have uncovered inscriptions with unexpected number shifts, a fact challenging the dating of textual strata based solely on *Numeruswechsel* (Greenberg 1984, 187; Berman 2017, 4). Moreover, scholars have increasingly tended to investigate the overall structure of texts and, hence, do not attribute much compositional significance to small linguistic 'discrepancies'. Moshe Weinfeld, in his commentary on Deuteronomy, argues that the number shifts in Deuteronomy "may simply be a didactic device to impress the individual or collective listener, or it may reflect the urge for literary variation" (Weinfeld 1991, 15). In some cases, according to Weinfeld (1991, 15), number shifts may be due to quotation,[46] or be rhetorical devices to heighten the suspense of a discourse.

This scholarly trend is also reflected in the studies of Leviticus. One example is Milgrom in his commentary on Lev 25. Even though he generally admits the possibility of identifying different textual strata, with respect to Lev 25 he calls this search "meaningless", because "The chapter, as is, flows logically and coherently" (2001, 2150). Ruwe (1999) also reads the number shifts in light of the overall structure of the text and the presumed functions of those shifts. For instance, according to Ruwe (1999, 132), the shifts between plural references in Lev 18:1–5, 24–30 and singular in vv. 7–23 have a rhetorical function in emphasizing the difference between the introductory and concluding exhortations (Pl) and the legal core (Sg).[47] Finally, Nihan rejects the ambitious reconstructions of Lev 25 as attempted by Elliger (1966, 335–49) and Alfred Cholewiński (1976, 101–18), among others, because, as he argues, "The resulting texts are too fragmentary to be coherent and in many cases the systematic alternation between singular and plural address (see, e.g., v. 13–17!) or between personal and impersonal formulation requires the text of Lev 25 to be significantly emended to fit the theory"

of Lev 17–26 entirely on number shifts, distinguished between a series (*Reihe*) of singular apodictic laws and a series of plural apodictic laws in Lev 19 (cf. Elliger 1966; Cholewiński 1976; Reventlow 1961). In his important study of apodictic laws in the HB, Gerstenberger (2009; originally published in 1965) claimed that apodictic laws in 2MPl could almost always be considered paraenetic additions by later redactors. More contemporary, scholarly works likewise consider *Numeruswechsel* as a diagnostic clue for identifying redactional activity, e.g., Sun (1990), Hartley (1992), Bultmann (1992), and Grünwaldt (1999). To be sure, Sun (1990, 187) is hesitant to use participant shifts as signs of redactional activity because Lev 19 cannot be reconstructed on the basis of *Numeruswechsel* according to him. Nevertheless, in his discussion of Lev 25, he asserts that the plural references in vv. 2–7 provide "a clue to the relative date of this unit" in relation to the parallel text in Exod 23:10–11 which is entirely in the singular (1990, 503).

[46] In fact, Milgrom (2001, 2155) suggests that the seemingly abrupt number shifts in Lev 25:2–7 are due to the incorporation and expansion of Exod 23:10–11 in Lev 25. Cf. also Stackert (2007, 126–27).

[47] In cases where rhetorical functions cannot be deduced from the participant reference shifts, Ruwe would not deny a source- or redactional-critical reason for those shifts (e.g., Lev 19:27b).

(2007, 522). Therefore, while not denying a compositional growth of the text, today most scholars would refrain from reconstructing the text on the basis of participant reference shifts.[48] Indeed, it is more common to see the participant reference shifts as rhetorical and structural devices.[49] The rhetorical function of the participant reference shifts in H will be discussed further in chapter 3.

The addressees of the divine and Mosaic speeches in Lev 17–26 have attracted the most attention among the participants of the text. As one of the major participants, the sons of Israel engage in multiple relationships, and most of the remaining participants are cast with reference to them (e.g., "your father" and "the sojourner who sojourns among you"). Since the addressees are connected with so many different participants, they most likely obtain different roles in different relationships. Social Network Analysis can shed more light upon these roles and provide a clearer picture of the overall role of the addressees within the community implied by the author. Moreover, in this particular study, the addressees will be differentiated with respect to their specific references, 'sons of Israel' (and other collective references), the individually addressed (2MSg), and the indirectly addressed individual (3MSg), the latter of which is frequently employed in the casuistic laws. By incorporating this distinction, it can be scrutinized whether certain relationships and events pertain to either of these components of the addressees.

2.5.2 The women

Judith R. Wegner has claimed that "the largest and most important subgroup in Leviticus is the entire class of women" (1998, 42–43). As for Lev 17–26, women occur frequently in the anti-incest laws in chapters 18 and 20, and there are several references to women as members of the priestly family in chapters 21–22. Moreover, female handmaids are mentioned (19:20–22; 25:6, 44), as well as the mother of the blasphemer, Shelomith (24:10–11), and the women in the curses of Lev 26 (vv. 26 and 29). In total, there are 20 distinct women in this part of Leviticus (cf. chapter 5). Women are referred to predominantly by role (what they do), or by relationship (most commonly family relationships)

[48] Recently, however, Arnold (2017) has revived the classical quest for tracing the origins of Deuteronomy 12–26 on the basis of *Numeruswechsel*. In fact, he claims that the rhetorical and stylistic readings of grammatical number are "over-corrections" which have missed the diachronic significance of those shifts (2017, 165). Although he accepts the now common view that *Numeruswechsel* also has rhetorical functions, he argues that pericopes with a dominance of 2MSg references are older than pericopes with a mix of 2MSg and 2MPl references.

[49] To be sure, traditional historical-critical scholars also appreciated the rhetorical or communicative function of participant reference shifts. Reventlow, for instance, attributed the plural references in H to a so-called *Prediger* who used plural references to give his preaching a deep, personal address (1961, 163). One wonders, however, why a redactor would appreciate the dynamics caused by participant shifts, while the author of an original source would not.

(Dupont 1989, 202). Only once is a woman referred to by her name.[50] It has been a topic of debate whether the women are included in the reference בְּנֵי יִשְׂרָאֵל 'the sons of Israel' who are the addressees of the text or perhaps in its parallel expression בֵּית יִשְׂרָאֵל 'the house of Israel'.[51] It is clear that the women generally constitute a peripheral group within H. It is not so clear, however, what exact role they fulfil and what purpose they serve in the text. Some view the text as picturing the women as the property of male Israelites, hence the anti-incest laws would amount to anti-theft laws (Wegner 1998, 45; 1988, 13; Noth 1977, 135).[52] More common is the viewpoint that the anti-incest laws in Lev 18 and 20 should be interpreted in light of the present holiness context irrespective of whether the individual laws ever existed independently. According to Joanne M. Dupont (1989, 164–65), the incest prohibitions express a multifaceted picture of the women. The text depicts the women as potential threats to male holiness, but it also protects their legal rights and even regards them as legally responsible persons (cf. Lev 20:10–21).[53] The women of Lev 17–26 have also been considered free agents, because "the primary concern is for the woman and the man to protect a *third entity* – the boundaries constituting the classificatory system which constitutes their world. This is an ontological concern" (Ellens 2008, 296; italics original).[54] Finally, the role of the women has been considered "instrumental" for "Israel's access to and continued relationship with its God" (Harrington 2012, 78).

In sum, although there is no discussion that the women in the Holiness Code are peripheral in that they are only referred to indirectly, there is still some doubt as to their role in the text. That they are peripheral within the outlook of the text does not necessarily correlate with social marginalization. To my knowledge, no one has claimed that the father is marginalized, even though he is never

[50] Interestingly, participants are rarely named in H. Apart from the mother of the blasphemer, Shelomith, only YHWH, Moses, and Aaron are named. Unlike these divine/male participants, Shelomith is never active and is only included to provide a subtle, polemical (?) identification of the blasphemer.

[51] The discussion is crucial because the overall picture of the women in Lev 17–26 would significantly change if they were included among the addressees on par with males. Joosten (1996, 34) suggests that בֵּית יִשְׂרָאֵל 'the house of Israel' may indeed include women, but this has been rejected by Milgrom (2000, 1412).

[52] Quite the opposite viewpoint is advanced by McClenney-Sadler (2007) in her investigation of the structure of Lev 18. McClenney-Sadler argues for a 'hierarchy of duty' beginning with YHWH's legal rights (v. 6), then the mother's rights (v. 7a), and the father's rights (v. 7b–11), etc. (2007, 90). If this hierarchy is indeed true, it implies that "the importance of wives and mothers in ancient Israelite culture is emphasized literarily, thus balancing gender asymmetry in these laws" (2007, 91).

[53] Dupont accounts for this tension by suggesting that Lev 20:10–21 reflects a later time "in which women, not only men, were considered legal persons with legal responsibilities" (1989, 164).

[54] This classification only pertains to the so-called 'sex texts' of Leviticus (15:18, 24, 33b; 18; 19:20–22, 29; 20:10–21; 21:9).

focalized as agent and is only referred to indirectly (e.g., "your father"; Lev 18:7). The role of the women (and the father) will be reconsidered in chapter 5 with respect to the social network of Leviticus.

2.5.3 The brother/fellow

The so-called 'golden rule' ("Love your fellow as yourself"; 19:18) has been a central topic for Jewish and Christian interpreters (Mathys 1986; Schenker 2012; Barbiero 1991, esp. 319-324).[55] It is commonly accepted that the fellow is an ethnic member of the Israelite community (Milgrom 2000, 1654; Mathys 1986, 38–39; Moenikes 2012, §2.2.1; Crüsemann 1992, 377; Noth 1977, 141–42). Firstly, רֵעֲךָ 'your fellow' occurs in the immediate context of אָחִיךָ 'your brother', עֲמִיתֶךָ 'your fellow countryman', and בְּנֵי עַמֶּךָ 'sons of your people' indicating a member of the community.[56] Secondly, the similar command to love the sojourner as oneself (19:34) suggests that the fellow is limited to an ethnic member of the society. Thus, the fellow is a member of the society who has certain rights to be respected by the addressees of the text. If, however, רֵעֲךָ is synonymous to אָחִיךָ, עֲמִיתֶךָ, and בְּנֵי עַמֶּךָ, another important passage adds to the picture of the fellow, namely chapter 25 with its recurrent references to אָחִיךָ 'your brother' who has fallen into severe poverty. Moreover, in Lev 25, the brother/fellow is not only related to 'you' (Sg) but also to the sojourner to whom he reaches out for help (25:47–54), as well as his family members by which he is allowed to be redeemed from debt (25:25, 48–49). Thus, although the fellow/brother is certainly not one of the most central figures in the speeches of H, he is engaged in a variety of interactions with different participants. Thus, to understand the social dynamics of the community implied by the text, the fellow/brother is an important character and deserves closer attention.

2.5.4 The foreigners

H refers to a number of non-Israelite persons, most frequently גֵּר 'sojourner', but also בֶּן־נֵכָר 'son of a foreigner', עֶבֶד 'slave', and בְּנֵי הַתּוֹשָׁבִים 'sons of resident (sojourners)'. Most scholarly debate has been focused on the identity of the גֵּר. The traditional understanding of the גֵּר was developed by Alfred Bertholet (1896) who argued that the characterization of the גֵּר underwent a change from a *persona misera* in Deuteronomy to a proselyte in post-priestly literature. Thus, according to Bertholet, in P, including H, the גֵּר is a non-Israelite who has assumed most of the religious stipulations. In H,

[55] For references to early Jewish interpretations of the רֵעַ 'fellow', cf. Neudecker (1992, 499–503).

[56] "Clearly, all these synonyms refer solely to Israelites" (Milgrom 2000, 1632).

then, "Ger ist ganz und gar ein religiöser Begriff geworden" (1896, 174).[57] This traditional notion has been challenged by scholars who see a religious/cultic distinction between the גֵּר and the ordinary Israelites and emphasize the social and ethnic aspects of the characterization of the גֵּר.[58] Finally, it has also been argued that H does not present a coherent picture of the גֵּר; hence the גֵּר is a compositional entity in the text.[59]

Construal of the גֵּר is complicated by the rather different contexts in which the participant appears. In Lev 17, the גֵּר is portrayed as a person engaged in Israelite cultic activities, indicating that the גֵּר is somewhat integrated in the religious community. This impression is furthered by the claims in 18:26 and 24:22 that the laws listed in those respective pericopes pertain to both the native Israelite and the גֵּר. On the other hand, the mentioning of the גֵּר along with the poor in 19:10 suggests that the גֵּר is not only an ethnic category but also a social one. The command to love the גֵּר as oneself (19:34) is paralleled the command to love one's neighbor (19:18), supporting an ethnic interpretation of the

[57] This understanding remained the consensus until recently (Baentsch 1893, 137; Kellermann 1977, 446; Mathys 1986). Mathys concludes that some of the references to the גֵּר (Lev 17:8; 22:18) probably refer to a proselyte, but admits that there is not an unequivocal example in H (1986, 45). A number of recent scholars have retained Bertholet's construal of the גֵּר as a religious entity, although it has become more common to assume a Northern Israelite identity of the גֵּר (Cohen 1990; Douglas 1994). Thus, according to these historical reconstructions, the גֵּרִים are not gentiles who have converted to Judaism, but "half-brothers, not-quite-kin, fellow-worshippers of the same God" (Douglas 1994, 286). Achenbach, although not considering the גֵּרִים to be 'proselytes', argues that H assumes them to be "fully integrated members of the religious community, despite their ethnic, political and economic status, where their position is different from the native-born Israelite citizen" (2011, 41).

[58] Milgrom posits that גֵּר consistently refers to a social – and not a cultic/religious – category, a 'resident non-Israelite', landless by definition, although a few of those resident non-Israelites could acquire wealth and "presumably unarable" land (2001, 2236; for his general discussion of the role and identity of the גֵּר, cf. 2000, 1493–1501). The opposite stance is taken by Nihan who argues that the גֵּר is predominantly "economically independent" in H and that Lev 19:9–10 is an exception to this image (2011, 117). Like Milgrom, however, Nihan rejects the traditional understanding of the גֵּר as a proselyte or 'half-brother' (cf. Albertz 2011, 57–58; Vieweger 1995, 274–75). Rendtorff (1996) analyzes the גֵּר in relation to other participants of H, namely the עָנִי 'poor', תּוֹשָׁב 'alien/resident', שָׂכִיר 'laborer', עֶבֶד 'slave', אָח 'brother', and אֶזְרָח 'native'. According to Rendtorff, in light of these various participants, the גֵּר appears to refer to a social and ethnic category on the margins of society.

[59] So Bultmann (1992, esp. 175-196) who argued for a mixed picture of the גֵּר in H due to the compositional growth of the text. According to Bultmann, Lev 19 shows a mixed picture of the גֵּר, partly referring to the same Israelite minority as assumed for Deuteronomy, and partly to a religious entity equal to the native of the land. In Lev 17 the גֵּר refers exclusively to members of a wing of the Judaic community, while Lev 25 provides a unique case where גֵּר refers to a non-Israelite. Van Houten (1991), although reaching a quite different conclusion as to the identity of the גֵּר, argues that the complex characterization of the גֵּר is due to the fact that different conceptions were sought integrated into H by an editor. In the resulting text, according to Van Houten (1991, 151–55), the גֵּרִים refer to those Israelites who stayed behind during the exile.

גֵּר. Finally, in chapter 25, the גֵּר is apparently a rich person to which even an Israelite can become a debt slave (25:47). However, just a few verses earlier, the Israelites are allowed to purchase slaves from the בְּנֵי הַתּוֹשָׁבִים הַגָּרִים עִמָּכֶם 'sons of the resident (aliens) sojourning among you' (25:45).[60] Whether the last reference is semantically identical to the גֵּר is generally rejected.[61] Milgrom (2001, 2187), however argues that the complex phrase גֵּר וְתוֹשָׁב 'resident (and) sojourner' (cf. 25:23, 35) is a hendiadys denoting that the גֵּר has settled down in a community. Although תּוֹשָׁבִים occurs independently in 25:45, the hendiadys is implied (2001, 2229). Thus, in these cases, the תּוֹשָׁב is not an additional participant but a specification of the residential status of the sojourner. Two other complications arise from chapter 25. Firstly, the addressees of Moses' speech, the sons of Israel, are called גֵּרִים וְתוֹשָׁבִים 'resident sojourners' in YHWH's land (25:23). Secondly, the singular addressee is commanded to help his poverty-stricken brother by treating him as a גֵּר וְתוֹשָׁב 'resident sojourner' (25:35). These overlapping terms are curious because they appear to break down the distinction between the גֵּר and the Israelites.

In sum, the construal of the role of the גֵּר is complicated by the various religious and social contexts in which the גֵּר is mentioned, as well as the characterization of other participants to be גֵּרִים and תּוֹשָׁבִים. In general, however, the גֵּר is interpreted as a person on the margins of society. As José E. Ramírez Kidd (1999, 62) argues, the גֵּר seems to take a middle position between the foreign nations, which are certainly outside the bounds of the law and the Israelite society, and the Israelite community. The question is how proximate the גֵּר is to the Israelite community. To capture the status of the גֵּר, Milgrom distinguishes between the civil law, where the גֵּר enjoys full equal status, and the religious law, where the גֵּר "is bound by the prohibitive commandments, but not by the performative

[60] This translation largely follows Milgrom (2001, 2229).

[61] Most scholars would differentiate between גֵּר and תּוֹשָׁב. Joosten argues that in contrast to the term גֵּר, which denotes a juridical status, תּוֹשָׁב refers to a social condition, a person "who immigrated from another locality and who must typically attach himself to a free citizen in order to assure his livelihood" (1996, 74). Zehnder (2005, 346) adds that in some cases, at least, תּוֹשָׁב can refer to ethnicity (25:44–45). Following Joosten, Nihan (2011) sees a social distinction between גֵּר and תּוֹשָׁב. A resident alien with the juridical status of גֵּר can lose this status and become תּוֹשָׁב. In this situation he is not protected by the law and "he may legitimately be forced to sell his children as debt slaves (Lev 25:45–46)" (2011, 123; cf. McConville 2007, 30). In contrast, Achenbach (2011) sees the difference between גֵּר and תּוֹשָׁב as one of belonging. The תּוֹשָׁב and the גֵּר have equal juridical rights, but the גֵּר is a full member of the religious society (2011, 41, 46). According to Achenbach (2011, 47–48), then, the lexeme תּוֹשָׁב, presumably belonging to the late strata of the priestly law, has taken over the former meaning of גֵּר as known in Deuteronomy, namely the *persona misera*.

ones" (2000, 1496).[62] Nihan stresses the dissymmetry between the גֵּר and the native Israelites even more. Firstly, since only the native Israelites can own land, "the land remains in H the central foundation for the legal distinction between Israelites and resident aliens" (2011, 124). Secondly, Nihan (2011, 124–29) argues that the dissymmetry is even bigger within the cultic domain, because some cultic laws are only addressed to the Israelites (e.g., Lev 17:3–7) and because the requirement of holiness only applies to Israelites. However, although only the Israelites are directly commanded to be holy (19:2), holiness plays into the characterization of the גֵּר as well. As Weinfeld explained, "The author of the Priestly Code, to whom sacral-ritual matters are of primary importance, is concerned with preserving the sanctity and purity of the congregation inhabiting the *holy land* and therefore takes steps to ensure that this sanctity be not profaned by the *ger*" (1972, 232; italics original; cf. Barbiero 2002, 240). Ramírez Kidd (1999, 48–71) added that the role of the גֵּר in P and H is only secondary to that of holiness.[63] Thus, the laws of the Holiness Code are not so much concerned with the legal status of the גֵּר but rather "show a particular concern […] to adjust the conduct of the גֵּר to the rules of cultic purity which preserve the holiness of land and people" (Ramírez Kidd 1999, 62; cf. also Jenson 1992, 116).

Although much research has been focused on the legal status of the גֵּר *vis-à-vis* the Israelites, some studies have also turned to the relationship between the גֵּר and other presumably socially marginalized participants (Achenbach 2011; Rendtorff 1996; Joosten 1996, 73–76). In particular, Rolf Rendtorff (1996, 79) proposed a social hierarchy of the minority groups in Lev 25: גֵּר 'sojourner' > תּוֹשָׁב 'resident/alien' > שָׂכִיר 'hired laborer' > slave. Rendtorff cautions, however, that the three first participants can be ordered in various ways. Only 'slave' does unambiguously belong to the lowest layer of society. The שָׂכִיר 'hired laborer' is a "laborer resident on the person's land" (Milgrom 2001,

[62] Similarly, Joosten argued that the גֵּר is a technical term for "a person (possibly a family or group) conceded a certain juridical status because of the fact that he has settled among a foreign tribe or people" (1996, 55). Although the גֵּר is generally a free agent and is not obliged to live like an Israelite in all aspects of life, he is nevertheless bound by "certain prohibitions, such as those prohibiting sacrifices to other gods or the eating of blood" (1996, 66; cf. also Ramírez Kidd 1999, 63). It has, however, been objected that the distinction between prohibitions and performative commandments is not so sharp, and that Lev 16:29, albeit not in H, counters the distinction (Zehnder 2005, 349 n. 1).

[63] It should be noted, however, that Ramírez Kidd's argument rests upon a redaction-critical reconstruction of the text in which the statements that include the גֵּר are often regarded as late additions (e.g., Lev 17:15; 18:26). It seems that Ramírez Kidd attributes less value to these late additions – and thus to the role of the גֵּר – because the laws are thought of as originally pertaining exclusively to the Israelites.

2161). The Holiness Code also mentions בֶּן־נֵכָר ‘son of a foreigner’[64] and זָר ‘stranger’.[65] The challenge for capturing the roles of these minor participants is the scarce references to them and, importantly, the fact that they occur even less frequently as independent participants. שָׂכִיר ‘hired laborer’, for example, occurs twice in a dependent construction (19:13; 25:6), three times as a predicate (25:40, 50, 53), and only once as an independent participant (22:10), if its juxtaposition with תּוֹשָׁב should not be interpreted as a hendiadys, thus signifying a resident laborer (cf. Milgrom 2000, 1861).

To conclude, the scholarly discussion of the identity, social and legal status, and role of the גֵּר ‘sojourner’ in the Holiness Code reveals the complex characterization of this participant. Irrespective of whether the text is compiled of different sources and thus (unintentionally?) combines rivalling notions of the גֵּר, a Social Network Analysis will analyze the participant as it is presented in the extant text. Moreover, social network tools allow for a controlled analysis of the sojourner with respect to all its relationships (e.g., the Israelites, the fellow/brother, YHWH, the women, the father, among others), as well as providing a quantifiable basis by which the participant can be compared to other participants of the social network, even if the participants are not directly connected. Social Network Analysis does not directly reveal the ethnicity or historical identity of the sojourner, but it provides a framework for analyzing where the sojourner is socially situated with respect to the implied community of the text.

2.5.5 The priests

Although the Holiness Code involves a shift of focus from cult to community, the priests remain central figures. They are referred to as ‘Aaron’, ‘the sons of Aaron’,[66] or simply הַכֹּהֵן ‘the priest’ (e.g., 17:5; 23:11). Specific regulations pertain to the sons of Aaron (21:1–9) and to Aaron (21:10–23). Most of the time, Aaron and his sons are addressed together (e.g., 17:2; 22:2). As has already been

[64] According to Joosten, בֶּן־נֵכָר means “one who is ethnically not a member of the people of Israel” (cf. Gen 17:12) (1996, 75). The term occurs only once in H (Lev 22:25), and that verse has typically been interpreted as a prohibition against acquiring blemished animals from foreigners (Elliger 1966, 300; Noth 1977, 163; Wenham 1979, 295–96). In fact, Gerstenberger simply describes the בֶּן־נֵכָר as an “animal merchant” (1996, 330). Achenbach remarks that the בֶּן־נֵכָר, a “non-resident alien”, is completely absent from H (except, of course, for Lev 22:25) because he is considered “excluded from the cultic and religious community” (2011, 44).

[65] The זָר occurs only in Lev 22:10–13 in H and relates to a prohibition against eating sacred food. According to Wuench, the term is the most general term for “stranger” and does not typically imply a value judgment of the person. In other words, the זָר is an outsider, sometimes also ethnically (2014, 1137–39; cf. Milgrom 2000, 1861; Wenham 1979, 294). Achenbach makes a sharper judgment of the זָר in H when he describes the זָרִים as people “who are not willingly integrated as *gerîm* into the social-religious community of Israel” (2011, 45).

[66] The sons of Aaron are also called הַכֹּהֲנִים ‘the priests’ (21:1).

noted with reference to Bibb, there is a marked tension between the conception of holiness in the first and second part of Leviticus (cf. §2.3.2). While holiness is associated with the cult and the priests in P, H calls for communal holiness. This tension has led to two very different understandings of the origins and writers of H. While Klaus Grünwaldt (2003) suggested that lay-people were responsible for H given its democratization of holiness and the limited role of the priests, Knohl argued that H was an "attempt by priestly circles in Jerusalem to contend with the prophet's criticism" of the rituals and temple institutions (1988, ix; cf. 2007; quoted in Milgrom 1991, 27). These different theories illustrate the difficulties in conceptualizing the role of the priests within the text. On the one hand, the priests continue to serve an important role in H, as illustrated by Lev 17 and 23 where sacrifices are handled by the priests. Moreover, according to Nihan, "Contrary to the community, priests are no longer exhorted to become holy by keeping Yahweh's laws, they are *innately* holy *because* they have been set aside (consecrated) to present Yahweh's 'food'" (Nihan 2007, 485; italics original). This role entails greater responsibility which explains the prohibitions against priestly blemishes in Lev 21:16–24 (Schipper and Stackert 2013, 477; Bibb 2009, 161).[67] At the same time, the conception of holiness and the privileged cultic role of the priests seemingly undergo a change in H. In fact, in most of the speeches, all of Israel is addressed, even in cultic matters, and Milgrom ascribes an "egalitarian thrust" to H (2000, 1451).[68] Lev 21:8 is a key verse in this respect.[69] If the 2MSg 'you' in וְקִדַּשְׁתּוֹ PI 'you shall sanctify him' indeed refers to the addressees, it may be that the people are to 'transfer' the priest into a status of holiness, which would imply that priestly holiness is not so different from that of the people (so Grünwaldt 2003, 239; Christian 2011, 368–69). Another, more common interpretation assumes a declarative meaning of the verb, hence, 'treat as holy' (Milgrom 2000, 1809; cf. R. Müller 2015, 83).[70] Nevertheless, even Milgrom argues that the people "is charged with the responsibility of overseeing the priests," since the priestly legislation is addressed to the entire people in 21:24 (2000, 1410). More radically, according to Mark A. Christian (2011, esp. 352–396), the role of the priests has been effectively reduced to a matter of handling blood rituals, while the people has become a nation of "lay quasi-priests" (2011, 380). For one thing, it is not priestly activity which

[67] Schipper and Stackert (2013, 466–68) do not relate blemishes directly to holiness. According to them, the problem of blemished priests is not that they are not holy, but that YHWH will not accept them in his proximity because they would threaten the holiness of the sanctuary. In other words, only indirectly do sacrificial and priestly blemishes pertain to holiness.

[68] Cf. also Knohl who argued that the Holiness School strove "to create a deep affiliation between the congregation of Israel and the Tabernacle-Temple and its worship" (2007, 192).

[69] See §3.3.5 for a detailed discussion.

[70] Cf. the discussion of קדשׁ 'holy' in §4.4.2.2.2.

effected the sanctification of the people in the first place but rather YHWH's unmediated salvation of his people from Egyptian bondage (22:32b–33). Secondly, according to Christian, the people has received direct revelation by YHWH concerning the distinction between clean and unclean animals, an otherwise priestly task.[71] Christian, therefore, views the "the difference between priests and laity" as "pragmatic rather than theological" (2011, 388–89).

In sum, the role of the priests in the Holiness Code remains unresolved. Have the priests lost their privileged role in favor of the people who are now their overseers? Or do the priests still play a cultic role in the Israelite society? In my network analysis of the text, I shall consider the role of the priests by looking at the interactions between the priestly participants and their third parties (i.e., participants interacting with the priests) and also by considering the interactions between the third parties themselves in order to determine how embedded the priests are in the community.

2.5.6 The blasphemer

In the only narrative in the Holiness Code (Lev 24:10–23), a man being half-Israelite and half-Egyptian holds a curious role. The man has often been called 'the blasphemer' in lack of a real name and due to his cursing of the divine Name for which he received capital punishment. It has been taken for granted that the blasphemer is a גֵּר 'sojourner' (Hutton 1999; Meyer 2005).[72] Curiously, however, the blasphemer is never explicitly called a גֵּר but repeatedly הַמְקַלֵּל 'the curser' (24:14, 23). As the narrative goes, the congregation does not know what to do with the blasphemer, apparently because he is not a 'pure' native Israelite. In other words, is the blasphemer exempt from punishment since only his mother is an Israelite? The legal principle *lex talionis*, put forward as a response to the blasphemy, is said to apply to both the native and the sojourner. By implication, then, if even non-Israelite

[71] Christian, however, overlooks the fact that the instruction to distinguish between clean and unclean animals is *not* unmediated. As a matter of fact, Moses is the mediator of all divine speeches in Leviticus (except for the divine speech to Aaron in 10:8–11). The phrase וְאֹמַר לָכֶם 'and I said to you' in 20:24 is embedded in Moses' speech. It likely refers back to the instructions in 11:44 (cf. Christian 2011, 381 n. 1703), but those instructions are themselves embedded in a speech by Moses and Aaron. Thus, the instructions in Leviticus are not direct, unmediated revelation to the people but mediated by Moses and sometimes also Aaron, the high priest.

[72] Meyer dubs the blasphemer a "half-caste […] who by implication should be regarded as a גֵּר" (2005, 202). This designation apparently stems from his interpretation of Lev 24:10–23 as a whole which functions "to remind the returned Elite that those that were not regarded as belonging to their group were a threat to them. This opened the way for exploitation"; an exploitation that did indeed happen in chapter 25 according to Meyer (2005, 252). Thus, according to Meyer, chapter 24 represents a transition towards a more negative view of the גֵּר. Meyer's interpretation requires the blasphemer to actually be a גֵּר although he is never called so in the text.

sojourners must be punished for blasphemy, the blasphemer must also since he falls in between native Israelites and non-Israelite sojourners.

The blasphemer has been characterized as the stereotypical outsider of the society (Rooke 2015; Holguín 2015). Recent deconstructionist approaches have emphasized an outsider perspective by pointing to the fact that the blasphemer is only introduced by his mother's name and is identified as a half-Egyptian (Rooke 2015, 167).[73] The blasphemer has also been likened to a *mestizo* (Spanish for mixed racial origin) who has become "victim of impossible demands that a closed community places upon the marginalized individuals who live on its fringes" (Holguín 2015, 99). In agreement with Deborah W. Rooke, Julián A. G. Holguín presents the *mestizo* as the paradigmatic outsider in contrast to his opponent, 'an Israelite man', who is the paradigmatic insider.

The characterization of the blasphemer as a paradigmatic outsider, however, does not seem to do full justice to the role of the blasphemer in H. Unlike many other participants, the blasphemer does in fact instigate an event and is generally more agentive than many other participants (e.g., most of the women). Moreover, the blasphemer's curse occasions a speech by YHWH to Moses in which the important legal principle, the *lex talionis*, is unfolded. Thus, as will be argued, the blasphemer has a rather significant structural role within the discourse of H (cf. chapter 5). In sum, therefore, characterization of the blasphemer must account for the fact that the blasphemer is both quite agentive *and* becomes the subject of imprisonment and capital punishment.

2.5.7 The land

Perhaps surprisingly, some scholars have considered אֶרֶץ 'land' as a participant almost on par with human participants. Indeed, as several commentators have noted, the land occasionally occurs as an agent and is seemingly personified in H (Hieke 2014, 1095; Barbiero 2002, 240).[74] In a recent article, Esias E. Meyer (2015b) discusses all cases in H in which the land occurs as the syntactic subject of a proposition. The land can be defiled (18:25, 27), spit out (18:25, 28), prostitute herself (19:29), rest (25:2; 26:34, 35), give its crops (25:19; 26:4, 20), take pleasure (26:34, 43), and eat (26:38). Notable for Meyer's contribution is his exploration of the triangular relationship between YHWH, the people, and the land. According to Meyer (2015b, 442), the strongest relationship is between YHWH and the

[73] In addition, Rooke (2015, 161–62) argues that while the identity of the community of H is constructed in masculine terms, e.g., addressing the community as 'the sons of Israel', the blasphemer is introduced as the son of an Israelite woman, Shelomith, and his act of cursing the divine name (נקב 'curse') is the same root that P uses for 'feminine' (נְקֵבָה). According to Rooke, then, by using gendered language, the author of Lev 24:10–23 draws a picture of "the innermost heart and the outermost boundary of the community" (2015, 165).

[74] Nihan explains the relationship between the land and its inhabitants as "almost organic" (2007, 560).

land, because the land is said to belong to YHWH, while the people are only tenants with YHWH (25:23).[75] The land has an intermediary role, since YHWH's blessings and curses are mediated by the land (e.g., 18:24–30; 26:4) (2015b, 443–45). In an extensive treatment of the land in H, Jan Joosten (1996, 152–54) dedicates a few pages to remarks on the so-called personification of the land in H. He describes the land as an "independent agent" and "an animate being far more powerful than its inhabitants" (1996, 152–53). Joosten notes a tension in H because the land belongs to both YHWH and the Israelites at the same time. The tension can be explained in terms of the cultic conception of H: "the land is YHWH's because he dwells there, it is Israel's because of their relationship to YHWH and his temple" (1996, 181).[76] More recently, Joosten (2010) has explored the conception of the land in H from a rhetorical point of view. In particular, he argues that the land has a rhetorical role as "the significant third" (*le tiers significative*) (2010, 392–94). The land is frequently referred to as 'your land', but occasionally also as 'my land'. The rhetorical implication of this "game of pronominal possessive suffixes" (*jeu de pronoms possessifs*) is to enhance the relationship between the divine speaker and his audience by means of relating the discourse to a third, concrete entity to which the audience can readily refer.[77] Stackert (2011) emphasizes the agency of the land in H in his article on land and sabbath. According to Stackert, the land is personified and idealized as a "holy servant of the Israelite god" (2011, 240). In particular, the land has an active role and "is required" to observe the sabbatical year (2011, 247 n. 22). Indeed, the land is depicted as an "idealized Israelite" in parallel to the people itself (2011, 246).

While the role of the land is certainly interesting, the present study will remain with the human/divine participants and leave the role of the land open for further research.

2.5.8 Summary and implications for the present study

Most accounts of the participants in the Holiness Code are limited to the study of individuals or small sets of participants. The strengths of these traditional approaches are readily apparent in that they often combine literary and historical considerations. A significant limitation, on the other hand, is that they do not take the entire network of participants into account, at least not in any structured way. As a consequence, a number of participants are often argued to be marginalized, for example the

[75] Milgrom (2000, 1404–5) remarks that H does never describe the land as the נַחֲלָה 'possession' of Israel but only as אֲחֻזָּה 'holding', hence eschewing the notion of permanent possession.

[76] Cf., however, Milgrom (2000, 1404) who rejects that YHWH's ownership of the land is due to his dwelling in the land. In many other respects, Milgrom agrees with Joosten's understanding of the role of the land.

[77] Christian (2011, 363) adds to Joosten's rhetorical analysis that the people seems to have a mediating role in Lev 25:5 in allowing for the land to rest.

women, the blasphemer and the sojourner, but such conclusions would be more valid if these participants were compared to one another in order to account for their respective roles in light of the remaining participants and their impact on the community. In other words, the role of a participant cannot satisfactorily be metered out independently from the network of participants, because roles are dynamic and interdependent.

The aim of the present study is to classify the participants and their roles based on their interactions and relationships with other participants and in light of their position within the social network. The advantage is that all participants and interactions are included in the calculation so that the characterization of one participant is always seen in light of the entire network of participants. By applying SNA, statistical methods can be employed to measure the structural roles of the participants, and interactions and relationships can be quantified. It is thus possible to compare the roles of all participants in the network despite difference in frequency and distribution across the text. In other words, the roles of the women can be compared to that of the blasphemer, although they do never interact. Given its emphasis on the participants and verbal interactions of the extant text, a Social Network Analysis of the Holiness Code has its own limitations. Firstly, it is not concerned with historical questions, for example, the 'real-world' identity of the גֵּר 'sojourner'. Secondly, it only includes clauses with minimum two participants and a verbal event, at least in the method applied here. Thus, if the text characterizes the participants by other linguistic means, they will not be included in this analysis (cf. chapter 5 for further discussion).

More concretely, the review of previous research revealed a number of inconsistencies in the profiling of the participants. Several important questions can more readily be addressed with SNA:

- The addressees: Does the subcategorization of the addressees (Pl vs. Sg) entail different roles in the social network of the text? (§3.3.7 and §5.5.1.2)
- The women: What is the role of the women? Are they profiled as free agents, patients, or instruments? (§5.5.3.1)
- The brother/fellow: How should we understand the role of the brother/fellow within the dynamics of clan, society, and foreigners? (§5.5.2.2)
- The sojourner: Where is the גֵּר 'sojourner' situated with respect to the Israelite community? Is he situated on the fringes of society, or is he closer to the core of the community than other presumably marginalized participants? (§5.5.1.3)
- The priests: What is the role of the priests *vis-à-vis* the roles of the people and YHWH? (§5.5.1.4)

- The blasphemer: How should the role of the blasphemer be accounted for in light of his active involvement in the unique narrative event in H on the one hand, and his poor fate by the hands of the Israelite congregation on the other hand? (§5.5.2.3)

2.6 Conclusion

This chapter was introduced with the question "How are we to read Biblical law?" As shown, a number of different answers to this question have appeared over the last decades. The most important development in my opinion is the increasing recognition that Biblical law, including the Holiness Code, is literature where laws, narratives, speeches, and exhortations have been purposefully employed to tell a 'story'. I have argued that one of the most important components of this 'story', its participants, has not received enough attention. And, moreover, previous research on the participants of the Holiness Code has led to diverging results, partly due to the fact that the participants were analyzed independently from the larger network of participants with which they interact. To better account for the characterization of participants, I shall propose Social Network Analysis as a means to handle more data in a more controlled way. Although SNA has its own limitations, the main strength is its ability to profile the participants in terms of their concrete interactions and in light of the entire network. In other words, there is a better chance that a participant is not overestimated or underestimated because of the researcher's agenda and particular interests.

The components of the social network model to be developed are the participants of the Holiness Code and their internal relationships. In this study, the internal relationships are conceptualized as the concrete interactions of the participants as represented by the verbs of the text. Both components need careful attention, since there is no straight-forward procedure for extracting either participant information or verbal semantics. Therefore, the two next chapters are dedicated to participant tracking (chapter 3) and semantic roles (chapter 4). The resulting data will be combined in chapter 5 and fed into a social network model of the Holiness Code.

CHAPTER THREE

PARTICIPANT TRACKING

3.1 Introduction

If participants are indeed some of the most important building blocks of any piece of literature as argued in the preceding chapter, an obvious first task of analysis is the delineation of participants.[78] In many cases, the reader can readily discern the participants, but not necessarily so. In Biblical texts, the tracking of participants is often a complex task because the Biblical authors had other literary conventions than modern readers. And sometimes it even appears that the authors deliberately obscured the delineation of participants. In the Holiness Code, this phenomenon is most clearly seen with respect to the (deliberate?) conflation of Moses and YHWH as well as to the numerous shifts between singular and plural reference to the addressees.[79] Moreover, given the genre of H, it provides its own challenges in that many hypothetical participants are introduced in the case laws (e.g., אִישׁ 'anyone/someone'). In order to carry out a Social Network Analysis of H, it is crucial to identify consistent means by which to distinguish participants, even when the participants are anonymous and indefinite.

The participant reference analysis undertaken in this study stands on the shoulders of Eep Talstra who pioneered the study of participant tracking in the Hebrew Bible. He is the creator of several computer programs that can track and systematize the participants of a text from the smallest linguistic entities to text-level participants. Talstra kindly created a state-of-the-art dataset for the purposes of the present study; a dataset now freely accessible online (2018b). The dataset reveals important issues pertaining to participant tracking, and the aim of this chapter is two-fold. On the one hand, the complexities witnessed in the dataset will be reviewed, and resolutions will be suggested whenever possible. On the other hand, abnormalities may not be resolved by strict linguistic and structural analysis but may rather point to pragmatic functions which will be discussed accordingly.

[78] Even more so, "To a large extent one could even call exegesis a kind of participant analysis: who is who in a text and how do the various participants, the writer and the reader included, interact?" (Talstra 2016a, 245).

[79] Moses refers frequently to YHWH in the 1st person (e.g., 17:10). Sometimes, however, YHWH is also referred to in the 3rd person (e.g., 19:5), the conventional way for referring to participants who are not speakers or addressees. De Regt (1999b, 88–90) notes a similar change of participant references in Deut 29:3–6 with respect to Moses and YHWH. See further examples and discussion below (§3.3.6).

More specifically, §3.2 introduces Talstra's methodology as the point of reference for discussing the complexities witnessed in the dataset. Furthermore, Talstra's dataset will be briefly presented. The body of this chapter is formed by §3.3 where the most important participant tracking complexities will be discussed with an eye to improving the analysis (if possible) or pointing to pragmatic functions of the abnormalities. §3.4 summarizes and concludes the chapter.

3.2 Methodology and data

3.2.1 Methodology

Participant tracking is the linguistic task of linking linguistic entities, such as words and morphemes, to the literary participants of the text. Simply put, "who is who?" Most readers intuitively make these inferences based on some grammatical consciousness and cognitive, 'real world' expectations as to which participant can be ascribed certain events. An instructive example is found in Lev 25:17: "You shall not cheat one another, but you shall fear your God; for I am YHWH your God." A cursory reading of the verse will associate the 'I' with YHWH. After all, the 'I' is explicitly identified with YHWH. The sentence and its context are perplexing, however. Firstly, "you shall fear your God" puts God in the 3rd person, as if this 'God' is different from 'YHWH your God' identified with the 1st person reference. Are the addressees simply commanded to fear whatever god(s) they observe? Or is the same God referred to in both 1st person and 3rd person in the same verse? Secondly, the verse is part of a speech which Moses is commanded to speak on behalf of YHWH (25:1–2). V. 17 is thus part of Moses' speech. This observation would explain why the first instance of 'God' is put in 3rd person in v. 17, since Moses would logically refer to God in the 3rd person. A disturbing thought emerges, because if this interpretation is indeed true, is Moses then the 'I' and referring to himself as 'YHWH your God'? Why would Moses not simply say "You shall fear God, for *he* is YHWH your God"? Is the complexity evidence of a rhetorical device purposefully employed by the author to put YHWH in 1st person for some communicative reason? Or are Moses and YHWH deliberately conflated or associated for theological purposes? This issue will be discussed further below (§3.3.6), but it illustrates well the complexities of texts, Biblical texts included, which too often evade the eyes of the reader. Participant tracking, then, is all about formalizing the otherwise intuitive process of identifying participants. The purpose of which is to reveal the complexities of the text by suspending the tendency for human readers to harmonize discrepancies.

Despite the fact that the "who is who" question must be fundamental to exegesis and translation, only a minority of studies have been dedicated to a systematic analysis of participant references in the Hebrew Bible. Here I will briefly mention only the most important ones in this respect. In his

study of the Joseph story (Gen 37; 39–48), Robert E. Longacre (2003; originally published in 1989) proposed an 'apparatus' for participant references (including nouns, proper names, pronominal elements, and null references, among others) as well as a ranking of participants with respect to their roles in the narrative. Informed by social linguistics, Longacre showed how linguistic entities were consciously employed to introduce or track a participant with a certain role.[80] Lénart J. de Regt (1999a) documented both usual patterns and special patterns of participant reference shifts throughout the Hebrew Bible with reference to the marking of major and minor participants and their (re)introductions in the text.[81] Steven E. Runge (2006) investigated the encoding of participants in Gen 12–25 and Exod 1–12. In particular, his study provided a discourse-functional description of the encoding of participants based on semantic and cognitive constraints. Oliver Glanz (2013) studied the participant reference shifts in Jeremiah with respect to unexpected change of grammatical person, number, and gender. De Regt's and Glanz' insights are relevant for the discussion of divine communication patterns in Leviticus (cf. §3.3.6). Most recently, Christiaan M. Erwich (2020) has created an algorithm for parsing Biblical texts to detect all sorts of referring entities, called mentions (i.e., all entities with marking of person, gender, and/or number), and to resolve co-referring entities. Although his research focused on the Psalter, the algorithm is applicable to all books of the Hebrew Bible. The algorithm does certainly not solve all exegetical problems pertaining to participant references, but it shows clearly the extent of formal participant tracking and where literary analysis should rightly begin. In contrast to De Regt and Glanz (and Talstra, cf. below), however, Erwich does not discuss the patterns of reference shifts. Moreover, most probably for practical reasons, he does not consider the complexities of synonyms and part-whole relationships, as is done in Talstra's research and the present study (cf. §3.3.8 and §3.3.9). Regrettably, due to the time constraints of the present project, I have not had the opportunity to relate Erwich's findings more specifically to my own participant data of Leviticus.

The most important contributions to the systematic study of participant tracking in the Hebrew Bible were made by Talstra. Because Talstra's dataset of participants in Lev 17–26 will form the backbone of the present participant analysis, his methodology deserves an introduction. Talstra has always opted for a bottom-up methodology for the grammatical description of linguistic structures. This procedure was implemented at the very beginning of the creation of the WIVU database of the

[80] Longacre (2003, 141) lists seven 'operations' that can be performed in Biblical narratives with the 'apparatus' of participant references: 1) introduction; 2) integration; 3) tracking; 4) reinstatement; 5) confrontation; 6) contrastive status; and 7) evaluation.

[81] Cf. also De Regt (2001; 2019).

Hebrew Bible at the Werkgroep Informatica at Vrije Universiteit in Amsterdam.[82] According to this methodology, text parsing begins with a structural analysis of the distributional entities of the text, words and morphemes. At later stages, the objects are parsed into word groups (phrases), clauses, and sentences. The distributional approach is followed by linguistic analysis to calculate the functions of words, phrases, and clauses by means of identifying patterns of linguistic behavior. Thus, the methodology can be termed a form-to-function methodology.[83] The form-to-function approach has also been the basis for Talstra's manifold experiments on participant tracking which include works on Zechariah (2018a), Exod 16 (2014), and Exod 19 (2016a; 2016b). Talstra has described his procedure in one of his articles on Exod 19 (2016b). The procedure of which follows eight steps, as briefly outlined here:

1. **Identification:** All possible participant reference candidates (PRef) are selected on the basis of grammatical features marking person, gender, and/or number. Clear cases are finite verbs, personal pronouns, and pronominal suffixes. Cases with gender and number information only are also included, that is, demonstrative pronouns, nouns, and NPs. Some phrases, called 'compound phrases' or 'complex phrases' (the latter designation employed in this study), contain multiple subunits and require further analysis, since the components of the phrase may themselves be referring entities apart from the phrase itself. This issue is discussed further below (§3.3.1).
2. **Testing:** It is tested how the PRefs can be matched to one another. There are generally three mechanisms: Firstly, suffixes may refer back to another suffix or a noun phrase. Secondly, subjects co-refer with their verbal predicates. And thirdly, lexemes co-refer with identical lexemes in the text. While identical lexemes can easily be mapped across the entire text, the two former linking procedures do normally apply only within the same textual domain.[84]

[82] For a detailed account of the methodology, cf. Talstra and Sikkel (2000; cf. Talstra 2004). For a technical description of the data creation process, cf. Kingham (2018).

[83] "I decided not to try to begin with the design of a set of grammatical rules, to be applied by a computer programme in performing the morphological and syntactic parsing. But from that very start and continually so in the group of the colleagues that joined me in the project, we have tried to use the Biblical texts as an area of testing proposals of syntactic parsing" (Talstra 2004).

[84] A textual domain is formed by one or more sentences and comprises an entire stretch of discourse (narrative or direct speech). A text is formed by one or more textual domains which form a textual hierarchy. Direct speech domains are often embedded in narrative speech introductions, and direct speeches may even contain portions of narrative or embedded direct speech. The recognition of textual domains is imperative for a successful participant-tracking analysis because participant references usually change across domain boundaries (cf. step 4 below).

Nominal clauses offer a separate challenge, since the subject and the non-verbal predicate need not be co-referring. Thus, additional analysis is required for nominal clauses (cf. §3.3.2).

3. **Participant sets:** Sets of PRefs matched by any of the linking mechanisms described in step 2 are combined into so-called participant sets (PSet). By implication, Prefs with no matches are skipped (cf. further discussion in §3.3.3). However, 1st person and 2nd person references are always accepted as PSets. In most cases, they refer back to references in other domains. The linking procedure sometimes encounter different referents with identical references. Further analysis is needed to disambiguate these references (cf. §3.3.4). Finally, each PSet is given a relevant label derived from the text (most commonly, proper name, NP, or pronoun).
4. **Communication patterns:** PSets are linked across domains by introducing new linking rules. While 3rd person references can easily be mapped to identical lexemes in other textual domains, 1st and 2nd person references require a different set of rules. In particular, when the border between a narrative domain and a direct speech domain is crossed, the participant references normally change. Firstly, the speaker of a quotation is normally introduced in the 3rd person in a narrative domain and referred to in the 1st person within the quotation itself. Secondly, the audience is introduced in the narrative domain in the 3rd person and normally addressed in the 2nd person in the quotation domain. Therefore, speaker and audience must be linked across domains by taking these participant reference shifts into account.
5. **Lexical identity:** The remaining PSets that are not part of any communication patterns are sought linked beyond domain level. Typically, 3rd person references are linked across domains based on lexical identity.
6. **Participant actors:** The connected PSets are connected at a higher linguistic level using the label ‘participant actor’ (PAct). This step subsumes the linking mechanisms of step 4 and 5 (communication patterns and lexical identity). At this stage of participant tracking, a number of linguistic phenomena require additional analysis, most significantly because of divergences from normal communication patterns. In Lev 17–26 abnormalities have been encountered with respect to both sender/speaker (§3.3.6) and addressee/audience (§3.3.7). The crucial question is whether these phenomena represent syntactic patterns to be handled in a formal participant tracking algorithm or can only be resolved by recourse to semantics or literary analysis.
7. **Synonyms:** Some PActs are likely to be co-referring despite their different labels. The most frequent issue is probably יהוה ‘YHWH’ and אֱלֹהִים ‘God’ which cannot be combined on the basis of lexical identity but nevertheless refer to the same participant. The collocation of

synonymous PActs enters a domain where linguistic and literary analysis meet, since a purely formal analysis can hardly account for all relevant cases. Moreover, the collocation of synonymous PActs evokes literary and rhetorical considerations because different references to the same participant may serve pragmatic purposes (e.g., the references יהוה 'YHWH' and אֱלֹהִים 'God' may not simply be employed for the sake of variation; rather, each reference may carry its own theological import). A number of such phenomena are encountered in Leviticus (cf. §3.3.8).

8. **Participant clusters:** Some PActs are similar but not entirely synonymous. Rather, they constitute part-whole relationships (e.g., רֹאשׁ הָהָר 'top of the mountain' is part of הָהָר 'the mountain'). These references denote a specific part or member of a participant and, thus, form clusters of related participants. The clustering of related participants allows for a distinction between main actors (e.g., 'the mountain') and dependent actors ('top of the mountain'). The implications for Lev 17–26 are discussed in §3.3.9.

3.2.2 The dataset

The Talstra dataset of Lev 17–26 consists of 4,092 rows and 370 different participant actors (PActs). A sample of the dataset is found in Table 3.1 (excluding book, chapter, and verse references for the sake of space). The second column, 'surface text', contains the surface text of the Hebrew text. 'Line' refers to the so-called clause atom but relative to the chapter; that is, the first clause atom of a chapter is the first line.[85] 'Pred' contains the verbal predicate of the clause, whereas 'lexeme' supplies the lexemes of the surface text. 'PSet' contains the participant sets calculated in step 3 (cf. Talstra's eight-step methodology above). 'PAct' refers to the participant actors calculated in step 6. In many cases, apart from the sample below, a reference is not given because only references with co-referring matches are included in the analysis. The two next columns provide the first and last slot of the participant reference relative to the line. Finally, the last column shows the syntactic functions of the participant references.

Talstra's participant reference dataset of Lev 17–26 reveals a number of linguistic and literary phenomena which interfere with the algorithm and complicate the analysis. Some of these phenomena can likely be resolved by further linguistic analysis as already suggested by Talstra and demonstrated

[85] The clause atom annotation is the result of the distributional analysis of the Hebrew text represented in the ETCBC database. The numbering of clause atoms thus follows the distributional order of the text. Each clause fragment is considered a clause atom, and one or more clause atoms form a complete clause (cf. Talstra and Sikkel 2000).

below. Other issues point rather to literary conventions and rhetorical devices and are less likely to be resolved by formal computational analysis.

Table 3.1 The first five rows of the participant tracking dataset (Lev 17:1–2a)

ref	surface text	line	Pred	lex-eme	PSet	PAct	first slot	last slot	func-tion
1	יְדַבֵּר *ydabbēr* ‘[he] said’	1	דבר	דבר	3sm=יהוה ‘YHWH’	יהוה ‘YHWH’	2	2	Pred
2	יהוה *yhwh* ‘YHWH’	1	דבר	יהוה	3sm=יהוה ‘YHWH’	יהוה ‘YHWH’	3	3	Subj
3	אֶל־מֹשֶׁה *ʾel=mōšeʰ* ‘to Moses’	1	דבר	אל משה	0sm=מֹשֶׁה ‘Moses’	מֹשֶׁה ‘Moses’	4	5	Cmpl
4	לֵאמֹר *llēʾmōr* ‘saying’	2	אמר	לאמר	3sm=יהוה ‘YHWH’	יהוה ‘YHWH’	1	2	Pred
5	דַּבֵּר *dabbēr* ‘speak’	3	דבר	דבר	2sm=	מֹשֶׁה ‘Moses’	1	1	Pred

3.3 Participant tracking phenomena in Lev 17–26

In what follows below, important linguistic phenomena concerning the participant tracking of Lev 17–26 will be discussed and related to Talstra’s eight-step procedure outlined above. I have not had access to Talstra’s computer programs, so the present analysis relies on a systematic cross-validation of the dataset to detect patterns of participant tracking. The cross-validation involves both computational detection of general patterns and manual inspection of the annotations. The dataset, along with my manual modifications resulting from the cross-validation, is published as Text-Fabric annotations for the ETCBC database of the Hebrew Bible (Højgaard 2020). A reader-friendly sample of the data is given in the appendix. The explorations and validations of the dataset have been carried out in Python and are likewise publicly available.[86]

[86] https://github.com/ch-jensen/participants.

3.3.1 Complex phrases

Complex phrases are phrases with multiple constituents and pose a challenge to participant tracking. Talstra (2016b, 13) hints at the issue in his consideration of the prepositional phrase לְזִקְנֵי הָעָם ‘to the elders of the people’ (Exod 19:7) which is a complex phrase comprised of two nouns. The question is whether both nouns should be considered participants. In Exod 19, which is the text under consideration in Talstra’s study, עַם ‘people’ occurs in other constructions, suggesting that the noun is a referring entity and not merely modifying the elders. Thus, the complex phrase לְזִקְנֵי הָעָם consists of two referring entities, ‘people’ and ‘elders of the people’.[87] In general, complex phrases are hierarchical in nature and can be referring at different levels: phrase, subphrase, word, and even morpheme.

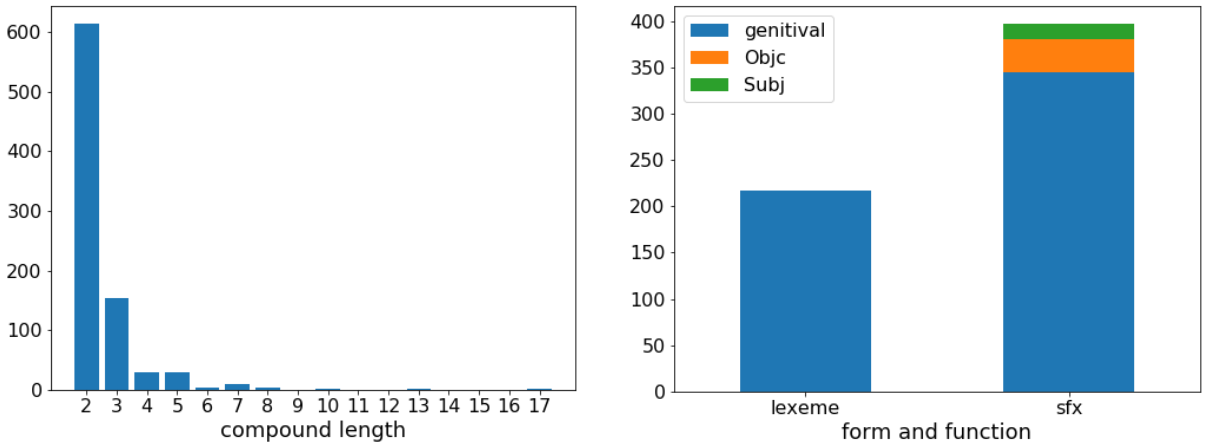

Figure 3.1 Frequency and length of complex phrases in Lev 17–26 (left) and distribution of complex phrases with two constituents (right)

In H, there are 847 complex phrases, the vast majority of which are short ones with two constituents (cf. Figure 3.1 left). The two-constituent complex phrases are most frequently instances of noun + suffix (cf. Figure 3.1 right). The remaining ones are phrases with two nouns in a construct chain.[88] The example from Exod 19:7 would qualify as an instance of two lexemes in a construct chain. A minority of the two-constituent complex phrases with suffixes are verbs + suffix for which the suffix functions as object or subject. The majority are constructions with noun + pronominal suffix. The

[87] Since זָקֵן ‘elder’ is not an independent reference and does not occur elsewhere in Exod 19, it is not treated as a referring entity. Related issues are discussed in §3.3.3.

[88] A construct chain is formed by two or more nouns juxtaposed. In its simplest form, the chain consists of a noun in the construct state followed by a noun in the absolute state, e.g., בְּנֵי יִשְׂרָאֵל ‘sons of Israel’. The absolute state is the base form of the word whereas the construct state is a derived form that signals a constructional relationship with the subsequent word. Here, the first member of the construct chain will be called the *nomen regens* and the last member the *nomen rectum*. For further explanation, cf. Van der Merwe, Naudé, and Kroeze (2017, §25).

challenge posed by these complex phrases is that, apart from the phrase itself, its constituents may be participant references on their own. An example from Lev 17:2 shows the complexity:

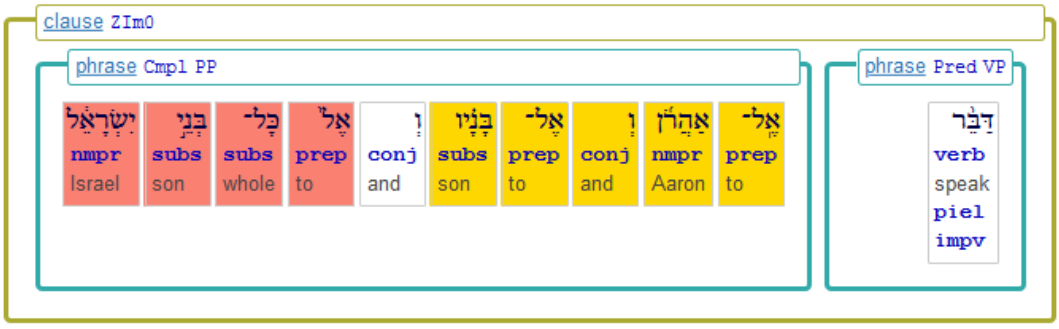

Figure 3.2 Text-Fabric screenshot of phrase- and subphrase structure (Lev 17:2a)

The complement phrase of the clause in Figure 3.2 is a complex phrase. The colored fields mark two subphrases. However, each subphrase contains additional, embedded subphrases, e.g., ‘Aaron’ and ‘his sons’ (cf. Figure 3.3).

Figure 3.3 Text-Fabric screenshot of embedded subphrases (Lev 17:2a)

Even the display in Figure 3.3 does not do full justice to the subphrase structure of Lev 17:2a. The final embedded subphrase (בְּנֵי יִשְׂרָאֵל ‘sons of Israel’) is itself composed of two subphrases because the two nouns form a construct-chain. Finally, the suffix of בָּנָיו ‘his sons’ contains another participant reference, the suffix referring to ‘Aaron’. Thus, this phrase is complex and contains nine constituents.[89] Any of the subphrases as well as the suffix may in fact refer to participants of the text but not necessarily so. Semantically, the phrase is curious because it appears that Aaron, Aaron’s sons, and the Israelites are three distinct entities. On the other hand, one might actually expect Aaron and his sons to be members of ‘all the sons of Israel’. In fact, when a new participant is introduced in the

[89] The nine constituents are: אֶל־אַהֲרֹן וְאֶל־בָּנָיו ‘to Aaron and to his sons’, אֶל־אַהֲרֹן ‘to Aaron’, אֶל־בָּנָיו ‘to his sons’, ו (suffix) ‘his’, אֶל כָּל־בְּנֵי יִשְׂרָאֵל ‘to all the sons of Israel’, כָּל־ ‘all’, בְּנֵי יִשְׂרָאֵל ‘the sons of Israel’, בְּנֵי ‘the sons’, and יִשְׂרָאֵל ‘Israel’.

following verse (v. 3), בֵּית יִשְׂרָאֵל ‘the house of Israel’, does that participant refer merely to ‘all the sons of Israel’, or does it include Aaron and his sons? In other words, the semantic delineation of these participants is anything but clear. With respect to participant tracking, the question is, whether the complex phrase concerns three distinct participants or perhaps one major participant (‘all the sons of Israel’) with two specified subspecies. Although curious, the phenomenon is not rare in literature and speech. Indeed, it is a common feature of speech to vary between use of group-references of which the participant is a member, or individual references to the participant in question. In light of the present project, I choose to consider the three participants distinct. That choice allows for analyzing the roles of Aaron, his sons, and the Israelites (excluding Aaron and his sons) over against one another (cf. chapter 5). One implication of this choice is that the laws of Lev 18–20 are treated as addressed solely to the lay Israelites, excluding the priests. Obviously, the laws apply to all members of the society, including the priestly class. On the other hand, the sons of Israel and the priests (Aaron and his sons) sometimes refer explicitly to two different entities (e.g., 22:2–3). In short, therefore, participants are not always distinct and may even overlap. In some cases, a semantic overlap may be dealt with by specifying part-whole relationships (cf. §3.3.9). In any case, since the present project relies on a clear delineation of participants, the resulting list of participants bears evidence of compromise (cf. §3.3.10).

Returning to the complex phrase of Lev 17:2, one wonders, whether ‘Israel’ is a real, independent participant or whether it merely qualifies ‘the sons’. In fact, the lexeme ‘Israel’ occurs eight times in Lev 17 and only in genitival constructions, including ‘sons of Israel’ (17:2, 5, 12, 13, 14) and ‘house of Israel’ (17:3, 8, 10). Furthermore, is כֹּל ‘all/anyone’ a participant reference, or does it rather modify ‘sons of Israel’? That is, should the phrase be translated ‘the entirety of the sons of Israel’ or ‘all the sons of Israel’? Strictly speaking, since כֹּל is part of a noun chain, it could be considered a member of ‘sons of Israel’; hence, ‘the entirety of the sons of Israel’. Logically, however, כֹּל does not denote a participant other than ‘sons of Israel’ but simply signifies that the entire people is addressed. In this case, therefore, we should treat כֹּל as a modifier rather than a participant reference on its own. The policy implemented by Talstra (2016b, 13) is to treat כֹּל as a modifier except for cases where the word is used as an independent noun phrase. More generally, the resolution to dealing with complex phrases lies with the matter of formal dependency. A formally independent participant is a participant that occurs either as an independent noun phrase or as the last noun of a construct chain, the so-called *nomen rectum*. Formally dependent participants, by contrast, never occur in these constructional slots. For that reason, ‘Israel’ is in fact considered an independent participant in Lev 17 because it is always the last word of the construct chains. By contrast, ‘sons’ never occur independently in that chapter.

There are no בָּנִים ‘sons’ apart from ‘his sons’ (17:2) and ‘sons of Israel’. Therefore, ‘sons’ is not considered a participant on its own. Neither is כֹּל ‘all/anyone’ which is also formally dependent in Lev 17:2a. Although the lexeme occurs eight times in the chapter, it occurs only in construct chains including ‘sons of Israel’ (17:2), כָּל־דָּם ‘any blood’ (17:10), כָּל־נֶפֶשׁ ‘any soul’ (17:12, 15), כָּל־בָּשָׂר ‘any/all flesh’ (17:14 (×3)), and כָּל־אֹכְלָיו ‘anyone eating it’ (17:14).

In sum, the use of independency as a criterium allows for automatically disregarding nouns that are not independently referring to a textual participant. Thus, rather than considering all four subphrases of ‘all the sons of Israel’ as participants, only two are: בְּנֵי יִשְׂרָאֵל ‘sons of Israel’ and יִשְׂרָאֵל ‘Israel’.

3.3.2 Nominal clauses

The second step of the participant tracking procedure is to test linking mechanisms for matching co-referring entities within the same domain, including subjects and predicates. Not surprisingly, in the dataset subjects and their verbal predicates normally refer to the same referent (95.57% of the cases). For nominal clauses the picture is different.[90] In nominal clauses with explicit subject and predicate, only 56.47% of the predicates refer to the referent of the subject. In the remaining nominal clauses, predicate and subject are annotated differently.[91] The difference is striking and points to an important issue. In many cases, it is reasonable to consider the subject and its non-verbal predicate to refer to the same referent, for example the common proposition אֲנִי יהוה ‘I am YHWH’ (3.1a). In this case, both references refer to the same participant. In other cases, however, the relationship between the subject and the predicate is less identical (3.1b):

(3.1) a. אֲנִי יהוה
‘I am YHWH’ (Lev 18:6).

[90] Scholars disagree as to the precise definition of nominal clauses. While it is generally acknowledged that a nominal clause distinguishes itself from verbal clauses by containing a non-verbal predicate, the non-verbal predicate has been defined in various ways. While Richter (1980, 12) argues that the term ‘nominal clause’ should be reserved for clauses without any verbal morpheme, it has been common to at least include the copula היה ‘be’ (Joüon and Muraoka 1993, §154; Dyk and Talstra 1999). De Regt (1999a) excludes participles from his definition of nominal clauses (cf. Groß 1980), while Niccacci treats clauses with verbal predicates in the second position as nominal clauses because the verb “plays the role of a noun” according to him (1999, 243). Baasten (2006) argues that what is normally called a ‘nominal clause’ should rightly be called a ‘non-verbal clause’ because the predicate of a non-verbal clause can be a nominal, a prepositional, or an adverbial phrase, among other things. An introduction by Miller (1999) summarizes the “pivotal issues” in the analysis of the nominal clause (‘verbless clause’ in her terminology). In the present discussion, a nominal clause is defined as a clause with a subject and a non-verbal predicate, including participles and the copula היה ‘be’.

[91] The calculation does not take into account those clauses where the subject is not annotated.

b. כְּאֶזְרָח מִכֶּם יִהְיֶה לָכֶם הַגֵּר הַגָּר אִתְּכֶם
‘Like a native of you shall the sojourner sojourning among you be to you’ (Lev 19:34).

The meaning of the nominal clause in (3.1b) is not to posit that the sojourner and the native Israelite are the same. Quite the opposite, the distinction is maintained, but the sojourner is to be treated as if he was a native. Thus, in this case, the subject and the predicate refer to two different participants. More precisely, the predicate *qualifies* the subject by relating the subject to the group expressed by the predicate. The difference between the two examples just given can be captured by the distinction between *identifying* predicates and *classifying* – or *descriptive* – predicates noted by several linguists (Waltke and O’Connor 1990, §8.4; Joüon and Muraoka 1993, §154ea; Andersen 1970, 31–34).[92] Francis I. Andersen, who introduced the terms to explain the semantic relationship between subjects and predicates in nominal clauses, explained that an identifying predicate supplies the identity of the subject and has a total semantic overlap with the subject. A classifying predicate, on the other hand, only has a partial semantic overlap with the subject and “refers to the general class of which the subject is a member” (Andersen 1970, 32). Bruce K. Waltke and Michael P. O’Connor (1990, §8.4) provide examples to show the difference:

(3.2) a. הִיא־צֹעַר
‘It is Zoar’ (Gen 14:2).

b. טָמֵא הוּא
‘He is unclean’ (Lev 13:36).

In (3.2a) the proper noun identifies the pronoun, that is, the referent of the pronoun is identified as the town Zoar.[93] In (3.2b), the predicate (טָמֵא) classifies the subject (הוּא) as a member of a larger group defined as unclean. However, the two examples also raise a more fundamental question: How are the phrase functions, subject and predicate, to be determined in the first place? Andersen (1970) answered the question with respect to the notions of ‘old’ and ‘new’ information. Accordingly, the subject expresses the old or known information to which new information is added (the predicate).

[92] Joüon and Muraoka (1993, §154ea) use the term ‘descriptive’ for classifying predicates because, according to them, this designation accounts better for existential and locative sentences. Moreover, their use of ‘identification’ differs significantly from other accounts in that the predicate needs to *uniquely* indicate and identify the subject for the clause to be identifying. They offer “I am Joseph” as an example of a sentence which would normally be interpreted as an identification clause but, according to their definition, could also be a descriptive clause, if the subject was construed as belonging to the class of men called Joseph.

[93] Apparently, in contrast to Waltke and O’Connor, Hoftijzer (1973, 492) interprets this example (Gen 14:2) as classifying.

Old and new information relate to definiteness, because already known information is likely to be more definite than new information. However, as objected by J. Hoftijzer (1973), definiteness is not a purely formal category for Andersen but also requires logic and semantics. Hoftijzer himself abandons the traditional notions of subject and predicate in favor of entirely formal ones.[94] More recently, Janet W. Dyk and Eep Talstra (1999) presented a paradigm to identify subject and predicate in nominal clauses on the basis of purely formal criteria, phrase type and definiteness. Their proposal involves a basic hierarchy of definiteness based on phrase types with ten levels ranked from the most definite: suffix[95] > demonstrative pronoun > personal pronoun > definite NP > proper noun > indefinite NP > interrogative pronoun > adjective > PP > locative. According to Dyk and Talstra, in relation to the choice between subject and predicate, suffixes are always subject, while prepositional phrases and locatives are normally only predicate.[96] The remaining forms can be both subject and predicate depending on the other referring phrase in the clause. That is, the phrase with the highest level of determination will be the subject. For clauses with two phrases of identical type, more analysis is required. As a rule, the entity that is most deictic is determined as the subject. For example, for a clause with two personal pronouns, a 1st person pronoun ranks higher than a 2nd person pronoun, the latter itself ranking higher than a 3rd person pronoun (1999, 179). The benefit of this paradigm is that it effectively separates the subject-predicate determination from the semantics of the clause (classifying vs. identifying).[97] Moreover, the paradigm does not rely on the word order of the clause which has often been the case (e.g., Andersen 1970; Joüon and Muraoka 1993, §154; Waltke and O'Connor

[94] The notion of 'subject' and 'predicate' for distinguishing the constituents of nominal clauses has also been critiqued by Van Wolde (1999) who favors the cognitive categories 'given' and 'new'.

[95] More specifically, suffixes attached to the particles יֵשׁ 'existence', אַיִן 'non-existence', הִנֵּה 'behold', עוֹד 'still', and locatives.

[96] According to Dyk (personal conversation), 'locatives' refer to anything that can indicate a location, including toponyms and nouns like אֶרֶץ 'earth/land'. Until now, however, this particular information has not been sufficiently encoded in the database. Hence, further research is needed to validate the decision tree for choosing between subject and predicate.

[97] It should be noted that Dyk and Talstra's paradigm is not reflected perfectly in the current version of the database (ETCBC c). Even the corpus treated in Dyk and Talstra's paper was either not completely parsed with the suggested algorithm or was later overwritten with new annotations. For example, Dyk and Talstra (1999, 153) determined the demonstrative pronoun in הַאַתָּה זֶה 'is this you?' (1 Kgs 18:7) as the subject due to its relatively higher degree of definiteness. However, in the current version of the database (accessed May 21, 2021), the personal pronoun is annotated as the subject.

1990, §8.4). In fact, word order more likely correlates with information structure and, in particular, the marking of topic and focus (Lambrecht 1994).[98]

I suggest, then, that the participant tracking analysis of nominal clauses must proceed in two steps. Firstly, subject and predicate are determined on the basis of relative definiteness. Secondly, the meaning of the clause can be determined according to the definiteness of the predicate. If the predicate is an indefinite NP or less definite according to Dyk and Talstra's hierarchy, the predicate is classifying. If the predicate is a proper name or more definite, the predicate is identifying. This paradigm helps to sort out some difficult nominal clauses in Lev 23:

(3.3) a. מוֹעֲדֵי יהוה אֲשֶׁר־תִּקְרְאוּ אֹתָם מִקְרָאֵי קֹדֶשׁ
'The appointed times of YHWH, which you shall proclaim, are holy convocations' (Lev 23:2).

b. וּמִנְחָתוֹ שְׁנֵי עֶשְׂרֹנִים סֹלֶת בְּלוּלָה בַשָּׁמֶן
'Its grain offering is two-tenths of choice flour mixed with oil' (Lev 23:13).

c. אַךְ בֶּעָשׂוֹר לַחֹדֶשׁ הַשְּׁבִיעִי הַזֶּה יוֹם הַכִּפֻּרִים הוּא
'Now, on the tenth [day] of this seventh month, the day of atonement it is' (Lev 23:27).

In (3.3a), the subject is identified as מוֹעֲדֵי יהוה 'appointed times of YHWH' because its *rectum*, יהוה 'YHWH', is more definite than the rectum of the second constituent, קֹדֶשׁ 'holy', which is an undetermined noun. Since the predicate is indefinite, it is reasonable to interpret the appointed times of YHWH as belonging to the class of 'holy convocations', hence a *classifying* clause. In (3.3b) the first constituent, מִנְחָתוֹ 'its grain offering', is definite in contrast to the second constituent which is an indefinite noun phrase. Therefore, the first constituent is the subject, and the predicate *classifies* or describes the grain-offering, that is, the grain offering is one of choice flour. The sentence in (3.3c) consists of three constituents, a complex time phrase, a definite noun phrase, and a personal pronoun. The main challenge is to identify the antecedent of the personal pronoun (הוּא 'he/it'). Probably, the antecedent

[98] Information structure is the component of sentence grammar that conceptualizes the pairing of mental propositions (or states of affairs) with the lexicogrammatical structures of the sentence. The term was first coined by Halliday (1967), but the theory received its most profound treatment by Lambrecht (1994). According to the theory, syntax is not autonomous but a vehicle for expressing mental ideas. That is, the speaker employs word order, among other lexicogrammatical tools, to utter a proposition in accordance with what he assumes the hearer to already be cognitively aware of or not. Among the key components of information structure are 'topic' and 'focus', the former referring to the information presupposed to be known by the hearer and the latter to the new assertion. The concept was adopted in RRG where it was proposed that languages have specific inventories of syntactic structures available for the speaker to communicate a particular proposition (Van Valin 2005, 13).

must be inferred from the time phrase which presupposes the noun יוֹם ‘day’, marked by the square brackets in the translation. If this interpretation is true, the time phrase is a *casus pendens* that reactivates the time frame (notice the demonstrative pronoun הַזֶּה ‘this’) first introduced in verse 24.[99] According to the paradigm, then, the personal pronoun is the subject, and the noun phrase the predicate. Given the definite predicate, the predicate is *identifying*; hence, the specific day referred to by the pronoun is identified as the day of atonement.

In sum, the two-step procedure proposed here on the basis of Dyk and Talstra’s paradigm for determining subject and predicate proves useful for interpreting the nominal clauses of Lev 17–26. This task is not only useful for exegesis but also for participant tracking because it provides the means by which to discern whether the clause contains two participants (classifying) or only one (identifying).

3.3.3 One-time participants

The participant tracking methodology proposed by Talstra is essentially about clustering participant references according to co-reference. By implication, any participant must have at least two references; otherwise, no clusters will be formed, and no textual participant will be derived. The advantage of this procedure is that many non-referential nouns are left out from the analysis simply due to their infrequency. The dataset contains 370 unique PActs, and that number would probably be much higher if all references were included. The downside of the approach is the neglection of participants which are indeed referential but only occurs once in a chapter. In the analysis of Lev 17:2a above (§3.3.1) the reference ‘his sons’ was only briefly considered. The subphrase refers to Aaron’s sons, who are members of the group of addressees in the clause ‘speak to Aaron, and to his sons, and to all the sons of Israel’. While ‘Aaron’ occurs twice in the chapter and ‘sons of Israel’ multiple times, ‘his sons’ only occurs once. As a consequence of the participant-tracking methodology, ‘Aaron’s sons’ is not considered a participant in the analysis because of its single attestation. Other participants are also ruled out on this account, including אֶזְרָח ‘native’ (18:26), עָנִי ‘poor’ (19:10), כַּלָּתוֹ ‘his daughter-in-law’ (20:12), אֱלֹהִים ‘God’ (22:33), and שְׁלֹמִית ‘Shelomith’ (24:11), none of which occurs more than once in their respective chapters. As for the last example, it is particularly interesting. While most

[99] The *casus pendens* is a dislocated constituent preceding the clause and commonly accepted as a means for a speaker/writer to reactivate a topic (Khan 1988; Westbury 2014; Jensen 2017). According to Givón (2001b, 2:265), the *casus pendens* (or ‘left dislocation’) is a referent-encoding device with one of the highest anaphoric distances. This means that the left dislocation can pick up a topic over a long distance in the discourse. With respect to the HB, *casus pendens* occurs “particularly frequently” in the legal material (Khan 1988, 98; cf. in particular his appendix on extraposition in legal formulae, pp. 98–104).

participants in H are anonymous, a few are named, including Moses, Aaron, and YHWH. To this narrow group belongs Shelomith, the mother of the blasphemer in the narrative of Lev 24:10–23. However, although she is named, she is only named with respect to her relationship with the blasphemer, so she does not have an independent role in the text. Therefore, the program may do well in skipping this reference. As for the second example in the list above, 'the poor', it is skipped, even though it is grammatically definite and, hence, referential. Moreover, 'the poor' occurs in parallel to גֵּר 'sojourner', which is in fact tracked because it reappears in 19:33. Thus, the neglection of references with only one occurrence sometimes leads to the lack of a participant. A resolution to this issue may therefore be to consider the definiteness of one-time, independent participant references, since definiteness signals referentiality. In the present study, the relevant participants have been included manually in the pile of human/divine participants under consideration.

A slightly different phenomenon is found in Lev 23. In that chapter the noun קָצִיר 'harvest' occurs four times but always with different 'owners': קְצִירָהּ 'its harvest', that is, the harvest of the land (23:10), קְצִירְכֶם 'your (Pl) harvest' (23:10), אֶת־קְצִיר אַרְצְכֶם 'the harvest of your (Pl) land' (23:22), and קְצִירֵךְ 'your (Sg) harvest' (23:22). Thus, although קָצִיר occurs multiple times, it is always modified by different nouns or suffixes and is therefore not considered a participant.

Another problem arising from the 'one-time reference issue' is that actors that only occur once in a chapter may actually have co-referents in other chapters of the larger context. For instance, while אֶזְרָח 'native' only occurs once in Lev 18, it also occurs in 17:15; 19:34; 23:42; 24:16, 22. Because the computer programs only work at chapter level, they will not map co-referring entities from different chapters in the larger context. The speech in Lev 25–26 is another example of this issue. Despite the fact that the speech in Lev 25 is continued and concluded in chapter 26, the two chapters are treated separately in the dataset. As a consequence, the audience is labeled differently in Lev 25–26. In the first chapter, the audience is labeled בְּנֵי יִשְׂרָאֵל 'sons of Israel' because of the speech introduction in v. 2, whereas in the second chapter, the audience is only implied and therefore only labelled אַתֶּם 'you', probably derived from the 2MPl suffixes in 26:1. This issue points to the intrinsic relationship between participant tracking and discourse structure. A discourse may cover multiple chapters, such as Lev 25–26, or may even be reduced to a few verses, such as the three speeches in Lev 22 (vv. 1–16, 17–25, 26–33). In the latter case, the participants are reintroduced, and identical participant references cannot automatically be mapped across the borders of the speeches. Therefore, when conducting participant tracking for multiple chapters (or multiple discourses within the same chapter), one will need to consider whether the participants of one chapter are the same as similarly looking participants in another chapter. For the participant analysis of Lev 17–26 this is a crucial step, since

it can be reasonably hypothesized that these chapters form a literary unit within the book of Leviticus and that the participants recur throughout the chapters. It is therefore necessary to introduce a new step of participant tracking where actors are fetched from each chapter of a longer discourse and mapped onto identical actors of other chapters.

3.3.4 Identical references

The genre of H poses a specific challenge to participant tracking. As a law text, the text involves numerous hypothetical participants in order to present legal cases. Commonly, a hypothetical participant is introduced by an indefinite NP, e.g., אִישׁ 'a man/anyone'. Other options are the indefinite כֹּל 'anyone' (17:14), נֶפֶשׁ 'soul' (17:15), אָדָם 'human being' (18:5), or אִישׁ אוֹ־אִשָּׁה 'a man or a woman' (20:27). Although the participants do not exist in the 'real' world, they are introduced as participants in the universe of discourse, so they should readily be captured by a participant tracking algorithm. The challenge is this genre's preference for lists of case laws where the same indefinite pronoun may be used in more than one case law. Lev 17, for instance, contains four case laws, each introduced by אִישׁ 'anyone' (vv. 3, 8, 10, 13). A fifth case is given in 17:15, now in a more generalized way by referring to כָּל־נֶפֶשׁ 'any soul'. The case laws all deal with cultic regulations on animal slaughter, each one dealing with different aspects: Slaughtering of animals outside the Tent of Meeting (vv. 3–7), burnt offerings outside the Tent of Meeting (vv. 8–9), eating of blood (vv. 10–12), hunting of animals (vv. 13–14), and purification (vv. 15–16). Much scholarship has focused on the diachronic relationship between Lev 17 and Deut 12.[100] From a participant tracking point of view, another issue is likewise complicated. A simple participant tracking algorithm may treat the references to אִישׁ as referring to the same participant. This procedure can indeed be followed in some instances. However, it is common in law texts to specify the referent if needed. In 17:3 'anyone' is specified as someone belonging to the 'house of Israel', but in the remaining cases, additional phrases are employed to specify that 'anyone' is someone from 'the house of Israel or from the sojourners living among them'. For that reason, participant tracking can be quite complicated, since it must take into account complex constructions, including restrictive relative clauses.

Lev 25 provides a similar case that is even more difficult. The chapter contains nine attestations of אִישׁ 'a man/anyone'. The two first are found in v. 10 where the lexeme is used in two elliptic clauses and should probably be translated 'anyone': "And you shall return, anyone to his property;

[100] Milgrom (2000, 1319–67), in particular, has argued for the priority of Lev 17 over Deuteronomy (cf. Kilchör 2015), while Otto (1999; 2008; 2015) has argued for the opposite view, namely that the prohibition against profane animal slaughter in Lev 17 is a revision of the Deuteronomic legislation. For a discussion of their views, cf. Meyer (2015a).

and anyone to his clan, you shall return." In neither of the cases is the reference further modified. The attestations in vv. 13, 14, and 17 are similar. In v. 26 a case law is introduced by the identical אִישׁ. In this case, however, the word should rather be rendered 'a man' or 'someone' because the reference is followed by a description of this person: 'A man without a kinsman redeemer' (lit. 'A man, when there is no kinsman redeemer for him'). Thus, although the reference is not itself grammatically determined, it is semantically definite; it refers to a person in a specific condition. To make things more complicated, the description is not put in a typical relative clause but in a clause introduced by the conjunction כִּי 'that/when/for'. Thus, the participant is not directly specified but only by means of a circumstantial or temporal clause. In the subsequent verse (v. 27) אִישׁ 'someone' is now going to return the rest of his debt לְאִישׁ אֲשֶׁר מָכַר־לוֹ 'to the man to whom he sold [his property]'. The introduction of another אִישׁ is not arbitrary because the reference comes with a restrictive relative clause specifying the other man as the buyer of the property. Nevertheless, as in Lev 17 the algorithm needs to be able to include relative clauses in the computation to keep track of the various אִישׁ. Finally, in v. 29 another case law is introduced by אִישׁ 'someone': 'A man, when he sells a dwelling house of a walled city'. Again, one may wonder whether this 'someone' is the same as the 'someone' in v. 26. On the one hand, the references do not refer to 'real' participants, so the question remains hypothetical. On the other hand, a consistent participant analysis needs to ponder this question in order to disambiguate or collocate the references. In Talstra's dataset, the two references are indeed collocated, a reasonable choice given the lack of any restrictive relative clauses or complex phrases as in the case laws of Lev 17. The approach undertaken by the present analysis has been restricted to considering only complex phrases and relative clauses. Accordingly, אִישׁ refers to two different participants in Lev 17 ('anyone of the house of Israel' and 'anyone of the house of Israel or of the sojourners') and to two different participants in Lev 25 ('anyone/someone' in vv. 10, 13, 14, 26, 29 and 'the man to whom he sold the property' in v. 27). For a more fine-grained analysis, other types of modifiers need to be brought into the computation, including temporal/circumstantial clauses, if possible.

3.3.5 References with same gender or person

The rigidness, positively speaking, of the algorithm producing the participant dataset of H prompts many interesting exegetical and linguistic questions. Because the program does not allow for ambiguity, every reference needs to refer explicitly to only one participant, even in cases where the text itself is ambiguous. Lev 21:8 offers such a case in which the interpretation has rather significant implications. In this verse, a 2nd person reference suddenly appears in וְקִדַּשְׁתּוֹ PI 'and you (Sg) shall sanctify him' (or 'and you shall consider him holy'). The addressees of the text are the plural priests, but they are for some reason addressed in the 3rd person. The program, therefore, has linked the 2MSg

reference to the most probable antecedent in this discourse, Moses. By contrast, most commentators interpret the reference as referring to the Israelites, even though they are not directly addressed in this particular speech (e.g., Milgrom 2000, 1808; Hartley 1992, 348).[101] To be sure, Moses is not an optimal antecedent, since 21:8 is part of Moses' speech to "the priests, the sons of Aaron" (21:1). On the other hand, since the addressees of Moses' speech are in the plural, Moses is the only referent so far having a 2MSg reference (21:1). The disagreement between the computer and human commentators should serve as a caution against theological interpretations dependent upon this particular reference. It has been argued, for example, that the people is responsible for "transferring" holiness to the priests, thus diminishing the special status of the priests (Christian 2011, 368–69; cf. the discussion in §2.5.5). However, given the ambiguity of the text, it is a far-fetched interpretation.

In some cases, a degree of ambiguity is apparently allowed for by the computer program in that a reference is not necessarily linked to a possible reference. The same verse (21:8) ends with a 2MPl suffix which would logically refer to the priests being the addressees of the speech (cf. v. 1). However, for some reason, the dataset does not contain this connection but simply labels the reference '2MPl', probably given the fact that the priests have so far been referred to in the 3rd person.

In sum, the rigidness of a computational procedure reveals complexities in the text which could easily be ignored from an ordinary reading of the text. In these cases, it may not be possible to decide on a referent with certainty. If more precise results cannot be achieved by further analysis, interpreters should at least treat these cases with caution and not depend on a particular interpretation of the participant references.

3.3.6 Divine communication patterns

An important component of participant tracking is the matching of participants across domains. By default, a quotation domain is introduced by a short narrative introduction specifying sender and addressee, for example, "YHWH spoke to Moses, saying" (Lev 19:1). In the subsequent quotation, 1st person references likely refer to the speaker (= sender) and 2nd person references to the audience (= addressee), for example, "Speak to all the congregation of the sons of Israel and say to them" (19:2ab), where the 2nd person imperative refers to Moses, the addressee of the narrative introduction.[102] In the next sentence, however, the pattern breaks down: "You shall be holy because I, YHWH your God, am holy" (19:2cd). According to the pattern, the 1st person reference should refer to the speaker of the

[101] The Israelites, in the plural, are mentioned in 21:24 in a compliance report that seems to conclude chapter 17–21.

[102] There are exceptions to this pattern, e.g., the unexpected plural suffix in אֲבוֹתֵיכֶם 'your fathers' in Zech 1:2, because the preceding speech introduction has the prophet Zechariah as the addressee. There is thus no antecedent to 'your' (Pl). For a discussion of this phenomenon, see Talstra (2018a) and Jensen (2016).

preceding speech introduction, Moses, but that cannot be true. For some reason, Moses uses the 1st person reference to refer to YHWH. While commentators have stressed the rhetorical and structural purposes of the *Selbstvorstellungsformeln* (Hartley 1992, 291–93; Milgrom 2000, 1517–18), the subtle break down of the normal communication pattern is not discussed in any commentary on Leviticus that I am aware of. But it is indeed curious that Moses frequently, but not exclusively, refers to YHWH in the 1st person. At times, YHWH is also referred to in the 3rd person (19:5, 8, 21, 22, 24).[103] Thus, since there is no simple rule that YHWH only holds either 1st person or 3rd person position, we need to study the phenomenon further.

The challenge for a participant tracking analysis is that no rule seems to be able to account for this unusual communication pattern. As Talstra notes for an identical phenomenon in Exod 16, it is "a linguistically unmarked change of speaker" (2014, 551) and a case where formal, computational calculations are brought into an area "where linguistic analysis and literary interpretation meet" (2014, 560). In fact, the only way to discern whether the 1st person reference refers to Moses or YHWH is to look at the content of the utterances. Another surprising participant shift is found in 17:10 where a verb in the 1st person is employed to express that "I will set my face against that soul who eats the blood, and I will remove it from the midst of its people." Does the "I" refer to Moses, the direct speaker, or YHWH, the original speaker? Although all commentaries take it for granted that YHWH is the implied speaker, this interpretation is not the only option, since YHWH is frequently referred to in the 3rd person so far in the chapter (17:4 (×2), 5 (×2), 6 (×2), 9). With regard to the identical case in Exod 16, Talstra (2014, 563) explains that the unmarked participant shifts between Moses and YHWH bear on a controversy as to who is responsible for the liberation from Egypt.[104]

Milgrom (2000, 1518, 1523) likens the *Selbstvorstellungsformel* 'I am YHWH' with the prophetic phrase נְאֻם־יהוה 'utterance of YHWH' and argues for a primarily structural function of the expression.[105] In fact, according to Milgrom, all but one *Selbstvorstellungsformeln* in Lev 17–26 mark the end of a unit.[106] Some of these utterances, however, come in so close sequence that they are not

[103] As for the reference לַיהוה 'to YHWH' in 19:5, Milgrom (2000, 1619) notes that the referent has been explicitly specified because the Israelites were accustomed to sacrifice to goat-demons (cf. 17:7) and needed an explicit correction. However, a 1st person suffix would be more adequate, since YHWH already holds the 1st person position at this point of Lev 19.

[104] In several cases, Moses is actually blamed for the exodus (e.g., Exod 14:11), even by God (Exod 32:7; 33:1).

[105] De Regt (2019, 25–26) notes that the shift between 3rd and 2nd person to YHWH in the Song of the Sea (Exod 15) serves a structural purpose.

[106] The only exception is the one in 18:2b where the phrase precedes a legal pericope (Milgrom 2000, 1518). Sailhamer (1995, 349) argues that Lev 19 can be structured according to the *Selbstvorstellungsformeln* which occur fourteen times in the chapter.

likely to mark the end of a paragraph (e.g., 18:4, 5, 6). As for the possible prophetic parallel נְאֻם־יהוה 'utterance of YHWH', Glanz (2013) has analyzed its distribution and function in Jeremiah. He argues that the utterance is a "macro-syntactical marker" employed by the speaker to "remind the reader/listener in an objective way […] that he is still speaking and demanding attention" (2013, 264). In Jeremiah, the employment of נְאֻם־יהוה often entails a participant shift from 1st person to 3rd person. Glanz interprets the shift as a rhetorical means of 'objectivization'. For example, when YHWH encourages the people to pray to him, it is never formulated with a 1st person reference (e.g., "pray to me") but always in the 3rd person, even in contexts where YHWH already holds the 1st person reference (e.g., Jer 29:7) (2013, 281). This particular participant shift is also used to mark discourse shifts, for example the shift from descriptive to explanatory discourse, the latter argued to be more objective (2013, 282).

Some of Glanz' observations resonate with the participant shifts in Lev 17–26. For one thing, apart from the *Selbstvorstellungsformeln* and speech introductions, all proper name references to YHWH concern cultic instructions, most frequently the numerous instructions regarding offering of sacrifices לַיהוה 'to YHWH'.[107] The 3rd person is also used to mark YHWH as the benefactor of sabbaths and feasts (23:3, 5, 6, 17, 34, 41; 25:2, 4) as well as of the rejoicing of the people (19:24; 23:40). The sacrifices are holy לַיהוה 'to YHWH' (23:20), and atonement is done לִפְנֵי יהוה 'before YHWH' (23:28). The kindling of the lampstand and the arranging of bread in the Sanctum are לִפְנֵי יהוה 'before YHWH (24:3, 4, 6, 8). Finally, the 3rd person is used to denote the ownership of YHWH with respect to the sanctuary (17:4), the altar (17:6), the sacrifices (19:8; 21:6, 21; 24:9), the holy feasts (23:2, 4, 37, 39, 44), and his name (24:16). The preference for cultic contexts suggests that the distribution of the proper name YHWH is more than merely coincidental. In light of this pattern, only once is a 1st person reference used where 3rd person would be expected:

(3.4) וַיְדַבֵּר יהוה אֶל־מֹשֶׁה לֵאמֹר דַּבֵּר אֶל־אַהֲרֹן וְאֶל־בָּנָיו וְיִנָּזְרוּ מִקָּדְשֵׁי בְנֵי־יִשְׂרָאֵל וְלֹא יְחַלְּלוּ אֶת־שֵׁם קָדְשִׁי אֲשֶׁר הֵם מַקְדִּשִׁים לִי אֲנִי יהוה

'YHWH spoke to Moses, saying: Direct Aaron and his sons to deal respectfully with the sacred donations of the sons of Israel – so that they do not profane my holy name – which they dedicate to me. I am YHWH' (Lev 22:1–2).

In all other instances where YHWH is portrayed as the benefactor of a sacrifice or as the 'owner' of his name, the proper name is used. The exception in 22:2, however, is due to the fact that the quotation

[107] 17:4, 5 (×2), 6, 9; 19:5, 21, 22; 22:3, 15, 18, 21, 22 (×2), 24, 27, 29; 23:8, 11, 12, 13, 16, 18 (×2), 20, 25, 27, 36 (×2), 37, 38; 24:7.

is not one of direct speech but indirect speech.[108] In indirect speech, there are not normally participant reference shifts, that is, the participants continue to hold the same grammatical person in the narrative introduction and the indirect speech event. Moses, the implicit speaker of the indirect speech, continues to hold the 2nd person, while the addressees (Aaron and his sons) remain in the 3rd person. It is thus logical that the direct speaker (YHWH) holds the 1st person in the indirect speech quotation.[109] The exception in 22:2 shows that the reference to YHWH in the 3rd person is the default, or neutral, reference in direct speech. By implication, in cases where the 3rd person would be expected (e.g., in Moses' direct speeches), 1st person references to YHWH could most likely be rhetorical devices.

In general, 1st person references to YHWH occur much more frequently in H than 3rd person references. Moreover, the 1st person references occur in rather diverse semantic contexts in contrast to the 3rd person references which occur exclusively in cultic contexts. Most 1st person references to YHWH are found in chapter 26, the long exhortatory discourse where YHWH urges the Israelites to adhere to the law by means of promises and warnings. In the rest of H, all divine threats of punishment are formulated in the 1st person,[110] as well as all God's provisions, be it the atoning blood (17:11), the land (20:24), the law (20:25), booths in the wilderness (23:43), or agricultural blessings (25:21). Whenever YHWH is presented as the savior from Egyptian bondage, it is done so in the 1st person (19:36; 25:38, 42, 55; 26:13, 45). Frequently, YHWH is portrayed as the 'owner' of the law,[111] as well as of the covenant (26:9, 15, 42 (×3), 44), the sabbath and holy feasts (19:3, 30; 23:2; 26:2), and the sanctuary (19:30; 21:23; 26:2, 11). The shifts to 1st person references are strong rhetorical devices. Above all, they create the impression that YHWH speaks directly to his people, although the speeches

[108] For the syntax of indirect speech in Biblical Hebrew, cf. Petersson (2017).

[109] The only other example of an indirect speech in H is found in 24:2–4. That case illustrates that the implied speaker of the indirect speech, Moses, retains his 2nd person position. There is no 1st person reference to the direct speaker (YHWH) within the indirect speech quotation. YHWH is referred to twice by a proper name (לִפְנֵי יהוה 'before YHWH') which would seem to run counter to the argument made here. לִפְנֵי יהוה, however, is a frequent phrase in the priestly material (e.g., Lev 1:3, 5, 11; 3:1, 7, 12; 4:4, 6, 7) and is generally thought of as indicating a place rather than referring to YHWH. As Milgrom explains with reference to Lev 4:7, "That 'before the Lord' can refer to the interior of the Tent is shown by Exod 27:21; 28:35; 30:8; 34:34; 40:23, 25" (1991, 238). J. W. Watts does not want to distinguish between location and theology and treats the phrase as one of "ritual location", that is, when the worshipper stands before the Sanctum, he ritually stands before YHWH (2013, 188).

[110] 17:10 (×3); 18:25; 20:3 (×3), 5 (×3), 6 (×3); 22:3; 23:30.

[111] 18:4 (×2), 5 (×2), 26 (×2), 30; 19:19, 37 (×2); 20:8, 22; 22:9, 31; 25:18 (×2); 26:3, 15 (×2), 43 (×2).

are always mediated by Moses.[112] By employing 1st person references, the addressees get the feeling of hearing YHWH himself. More specifically, the 1st person references establish and strengthen the relationship between YHWH and the people, most explicitly stated in the *Selbstvorstellungsformel* 'I am YHWH your God'. This utterance is sometimes accompanied by reference to the exodus in order to further anchor the relationship in the shared history ("who brought you out of the land of Egypt"; e.g., 25:38). A few times, a 1st person reference is used to redirect the speech, for example, "But I have said to you" (20:24; cf. 17:12, 14), perhaps in order to enhance the contrast between the preceding verse and the following. The imminence of YHWH is likewise felt in the 1st person warnings where YHWH personally promises to 'cut off' the culprits. The rhetorical strength of the shift between 3rd person and 1st person is seen clearly in 23:28–30:

(3.5) וְכָל־מְלָאכָה לֹא תַעֲשׂוּ בְּעֶצֶם הַיּוֹם הַזֶּה כִּי יוֹם כִּפֻּרִים הוּא לְכַפֵּר עֲלֵיכֶם לִפְנֵי יהוה אֱלֹהֵיכֶם כִּי כָל־הַנֶּפֶשׁ אֲשֶׁר לֹא־תְעֻנֶּה בְּעֶצֶם הַיּוֹם הַזֶּה וְנִכְרְתָה מֵעַמֶּיהָ וְכָל־הַנֶּפֶשׁ אֲשֶׁר תַּעֲשֶׂה כָּל־מְלָאכָה בְּעֶצֶם הַיּוֹם הַזֶּה וְהַאֲבַדְתִּי אֶת־הַנֶּפֶשׁ הַהִוא מִקֶּרֶב עַמָּהּ׃

> 'You shall not do any work during this whole day, because it is the day of atonement to atone for you before YHWH your God. For any soul, who does not humble himself during this whole day, he shall be cut off from his kinsmen. And any soul who does any work during this whole day, I will destroy that soul from the midst of his people' (Lev 23:28–30).

In 23:28–30 the reference 'YHWH' is neutral and to be expected from the fact that Moses is speaking. The shift to 1st person adds a severe motivation to proper observance of the day of atonement because YHWH personally confronts the listener with the warning of destruction.

In sum, the various uses of the 1st person references to YHWH within the speeches of Moses are pragmatic devices to create a strong impression of imminence. By making Moses refer to YHWH in the 1st person, YHWH comes closer to his audience and can thereby draw his audience into a personal dialogue.[113] By creating an impression of imminence, the frequent 1st person references likely serve to strengthen the personal relationship between YHWH and the people and to enhance the motivations for strict adherence to the law. In this respect, the 3rd person references are the default references to YHWH in Moses' direct speeches and do hardly carry any pragmatic significance. As argued, the 1st

[112] Even modern scholars can be persuaded by the reality-mimicking function of the 1st person references, e.g., Christian (2011) who argues that the role of the priests is diminished because the Israelites have received direct revelation from YHWH, thereby overlooking the fact that Moses is in fact mediating the revelation (cf. §2.5.5 n. 71).

[113] Similarly, "The אֲנִי יהוה-formula is at the core of this strategy since it makes the audience constantly aware that they are directly addressed by YHWH himself" (R. Müller 2015, 79). R. Müller (2015, 84) argues further that the full rhetorical effect of the אֲנִי יהוה-formula is only achieved by oral performance of the text.

person references to YHWH in the indirect speech of 22:2 support this idea. In conclusion, then, one can hardly expect a computer program to be able to attribute the 1st person references in Moses' speeches to YHWH, unless of course it can be established as a regular pattern. On the other hand, a computational analysis can effectively identify occurrences of abnormal communication patterns which are the domains of rhetorical analysis.

3.3.7 The audience

The Holiness Code contains interesting shifts between plural (2MPl) and singular references (2MSg) to the audience, בְּנֵי יִשְׂרָאֵל 'the sons of Israel'.[114] As explained in §2.5.1, the participant shifts have traditionally been interpreted as indicators of redactional activity and more recently as intentionally employed, rhetorical devices. The participant shift is an obstacle for a participant tracking algorithm because the connection between the explicit addressee of the discourse בְּנֵי יִשְׂרָאֵל and the singular reference (2MSg) is vague. The references share gender (M), and the shift from 3rd person to 2nd person can be accounted for by regular linking rules for linking narrative speech introduction and direct speech (cf. step 4 in §3.2.1). The shift from plural to singular is unexpected and requires the semantic inference that the singular addressee is a member of the sons of Israel. For some reason, the linking procedure has turned out successfully in some parts of Talstra's dataset. In Lev 25 all 2nd person references are linked to the addressees of the text (בְּנֵי יִשְׂרָאֵל 'the sons of Israel') irrespective of grammatical number. In chapter 18, on the other hand, plural and singular addresses are distinguished so that 2MPl references refer to the addressees (בְּנֵי יִשְׂרָאֵל 'the sons of Israel'), while 2MSg references refer to an unspecified singular addressee. It is not clear to me why the participant shifts are handled differently in different chapters, but it surely illustrates the complexity of the text.

As noted, it has become more common among scholars to emphasize the rhetorical function of this type of participant shift. In general, the second person address is considered a rhetorical device for persuading the hearers, since the "Hearers and readers are likely to feel directly addressed and therefore obliged to respond" (J. W. Watts 1999, 64).[115] Norbert Lohfink (1963, 248) explained the participant shifts between plural and singular address in Deut 5–11 as markers of intensification. Thus, at critical places in the text the singular address is employed to attract the attention of the hearer

[114] Cf. §2.5.1 where the audience was defined as the sons of Israel, although Aaron and the sons of Aaron are at times also included in this group.

[115] In addition, Gane (2017) explains the participant reference shifts with respect to the covenant: YHWH has made a covenant with the people as a whole, but he has also made a covenant with each individual of the people, and each of them is his covenant vassal. Accordingly, the "Second-person address establishes a direct link between the speaker and the hearer/reader" (2017, 84).

or reader. This interpretation was accepted by De Regt (1999b, 85–88) who also argued that the distribution of singular and plural addresses closely corresponds to the content matter of the book.[116] In his study of people and land in the Holiness Code, Joosten (1996; cf. 1997) argued that the shifts between singular and plural addresses likewise serve specific rhetorical and communicative purposes.[117] In particular, according to Joosten, the default address to the addressees is the plural reference, while the singular address is employed to address each member of the community personally. In one "anomalous" case (25:7–9), the singular is apparently used to address the community (1996, 48). Joosten admits that it is not possible to make a complete distinction, since at least Lev 19 has a blend of plural and singular references, and he would not dare to postulate that "thou shalt rise up before the hoary head" (19:32) is more individualizing than "ye shall not steal" (19:11). Nevertheless, Joosten shows that certain nouns such as שָׂדֶה 'field', כֶּרֶם 'vineyard', בְּהֵמָה 'cattle', עֶבֶד 'slave', רֵעַ 'neighbor', and family members, occur with verbs and pronominal suffixes in the singular. By contrast, nouns such as מוֹשָׁבֹת 'dwelling places', דֹּרֹת 'generations', עָרִים 'cities', and מִקְדָּשִׁים 'sanctuaries' occur in contexts with plural verbs and pronominal suffixes (1996, 49). According to Joosten, then, it means that the community is addressed as a group within the larger domains of the exodus, the cult, the festivals, the cities, and the land, while the members of the community are addressed individually within the domains of personal relations, property, and behavior. Meyer (2005), although not entirely convinced by Joosten's categorization, likewise regarded the singular address as a rhetorical, individualizing device.[118] Above all, Meyer regards the number shifts as 'power-conscious' devices, as the text "zooms in on those people who really have the power to make a difference" (2005, 144).

In sum, even if a computer program can be developed to track the references to the addressees irrespective of number shifts, it is still useful to retain the distinction, insofar as the shifts are most likely intentional, rhetorical devices. If in fact Joosten is right that the variation correlates with

[116] In particular, the plural addresses are applied in contexts of Israel's history, while singular references abound in passages dealing with cultic and ritual matters (De Regt 1999b, 86–87).

[117] Cf. also Barbiero (1991, 206–8) who applies Lohfink's distinction in his analysis of rhetorical functions of the *Numeruswechsel* in Lev 19.

[118] Meyer remarks with respect to Lev 25 that "a word like אָח ['brother'] occurs with both the singular and the plural" and that "Even Joosten does not really know what to do with vv. 7–9, which according to his theory should be plural, but which are addressed to the singular" (2005, 117). In his own attempt at solving the disturbing case of 25:7–9, Meyer (2005, 117–24) argues that the singular references are used both as a persuasive way of addressing the individual landowners and for the sake of making a smooth transition from the laws on the sabbatical year (addressed to the individual landowners) to the jubilee laws, which concern the community of landowners as a whole (plural references).

specific domains (communal vs. personal), these participant shifts are within the interests of a Social Network Analysis which is concerned with the social domains of the participants. Thus, for the present analysis, the singular and plural references are kept distinct for further research (cf. chapter 5).

3.3.8 Synonyms

Step 7 and 8 of Talstra's participant tracking procedure are concerned with semantic relationships beyond purely formal ones. More concretely, step 7 deals with different, yet synonymous, participant actors (PActs), whereas step 8 regards participant actors with a certain extent of semantic overlap, essentially forming part-whole relationships. These two steps provide an obvious challenge for a computer program, since there are not necessarily linguistic cues (e.g., morphology or lexical identity) to suggest a semantic relationship. Nonetheless, since synonyms and part-whole relationships refer to the same referent or membership of a referent, respectively, a profound participant analysis needs to take these phenomena into account. As a matter of fact, part-whole relationships have also been discussed with regard to SNA. In their SNA of *Alice in Wonderland*, Apoorv Agarwal et al. (2012) discuss whether a group of birds should be considered a group of which each bird is considered a member. And if so, if the group loses one member, should the remaining group of birds be marked as a new entity? These considerations are important in order to capture the complexity and dynamics of a network of participants. The present study will therefore proceed a step further than Agarwal et al. by proposing a hierarchy of participants from which to extract participant information. The issue of part-whole relationships will be discussed in the next section (§3.3.9). The present section will consider synonyms.

To illustrate the issue of synonyms, I will first discuss the cases found in Lev 17. The most distinctive is the curious shift from אִישׁ 'anyone' to נֶפֶשׁ 'soul' in v. 10:

(3.6) וְאִישׁ אִישׁ מִבֵּית יִשְׂרָאֵל וּמִן־הַגֵּר הַגָּר בְּתוֹכָם אֲשֶׁר יֹאכַל כָּל־דָּם וְנָתַתִּי פָנַי בַּנֶּפֶשׁ הָאֹכֶלֶת אֶת־הַדָּם וְהִכְרַתִּי אֹתָהּ מִקֶּרֶב עַמָּהּ

'[If] anyone of the house of Israel or of the sojourners sojourning among them eats any blood, I will put my face against the soul who eats the blood, and I will remove it from the midst of its kinsmen' (Lev 17:10).

In (3.6) there is a subtle shift from 'anyone to 'soul'.[119] The only indication of co-reference is the participle הָאֹכֶלֶת 'eat' which relates 'soul' to the man of Israelite or foreign origin depicted as eating blood. While a reader will intuitively connect אִישׁ 'anyone' and נֶפֶשׁ 'soul' due to the fact that both

[119] I ignore for the moment that the participant אִישׁ should rightly be labelled 'anyone of the house of Israel or of the sojourners' (cf. §3.3.4).

participants are described as eating blood, the collocation is difficult to formalize. An algorithm would need to identify the clause בַּנֶּפֶשׁ הָאֹכֶלֶת אֶת־הַדָּם ‘against the soul who eats the blood’ with a complex clause ‘anyone of the house of Israel or of the sojourners sojourning among them who eats any blood’. Although the two references clearly refer to the same person, one needs to consider the implications of collocation. As regards the shift from אִישׁ ‘anyone’ to נֶפֶשׁ ‘soul’, it may be that the shift has a literary purpose. It has been suggested that נֶפֶשׁ ‘soul’ in conjunction with eating has to do with the root meaning of נֶפֶשׁ which is ‘throat/appetite’ (Milgrom 2000, 1471), or that נֶפֶשׁ signals a deep connection between the blood, which is the נֶפֶשׁ ‘life’ of the animal (17:11), and the life of the human being punished by YHWH as a revenge for eating blood/life (Wenham 1979, 244–45). In any case, these interpretations illustrate a consequence of participant tracking and, particularly, of participant clustering. By collocating semantically related participants, information is inevitably lost. On the other hand, by reducing the number of participants, other aspects of the text can be analyzed. At this level of analysis, therefore, the aim of the researcher defines the granularity of the participant analysis. The aim of the present study is not to explore the internal composition of the participants (i.e., word senses attached to individual participants) but rather to contrast distinct participants (e.g., the native Israelite and the sojourner). For that reason, אִישׁ ‘anyone’ and נֶפֶשׁ ‘soul’ are collocated despite the possible theological significance attached to נֶפֶשׁ.

There is one important exception to this heuristic choice of granularity because it is in fact relevant to inquire the internal composition of one participant, namely the addressees, the sons of Israel. Recall that the sons of Israel are sometimes addressed in the 2nd person (singular and plural) and sometimes in the 3rd person. The participant shifts may bear on certain rhetorical and theological concerns as discussed above (§3.3.7). The 2nd plural address likely refers to the Israelites as a group, while the 2nd singular reference addresses each Israelite personally. In addition, the 3rd person reference is commonly used in case laws to exemplify a legal case. With respect to the addressees, therefore, a somewhat more fine-grained strategy is applied than for other participants in H. That is, the plural address to the Israelites (2MPl), the singular address (2MSg), and the singular, indirect address (3MSg) are handled separately. The benefit of this strategy is that it allows for analyzing the individual references independently within the network.

The participant tracking of Lev 17 illustrates well the trade-off between accuracy and simplicity. Talstra’s dataset of Lev 17–26 contains 250 participant references for Lev 17. Talstra’s own analysis results in 34 participant actors (PActs). Still, some participants are semantically related and could reasonably be collocated, including for example אִישׁ ‘anyone’ and נֶפֶשׁ ‘soul’ (cf. above).

Furthermore, if ‘anyone’ and ‘soul’ are collocated, the references to the kinsmen of ‘anyone’ (e.g., 17:4) and the kinsmen of ‘soul’ (e.g., 17:10) should likewise be collocated.

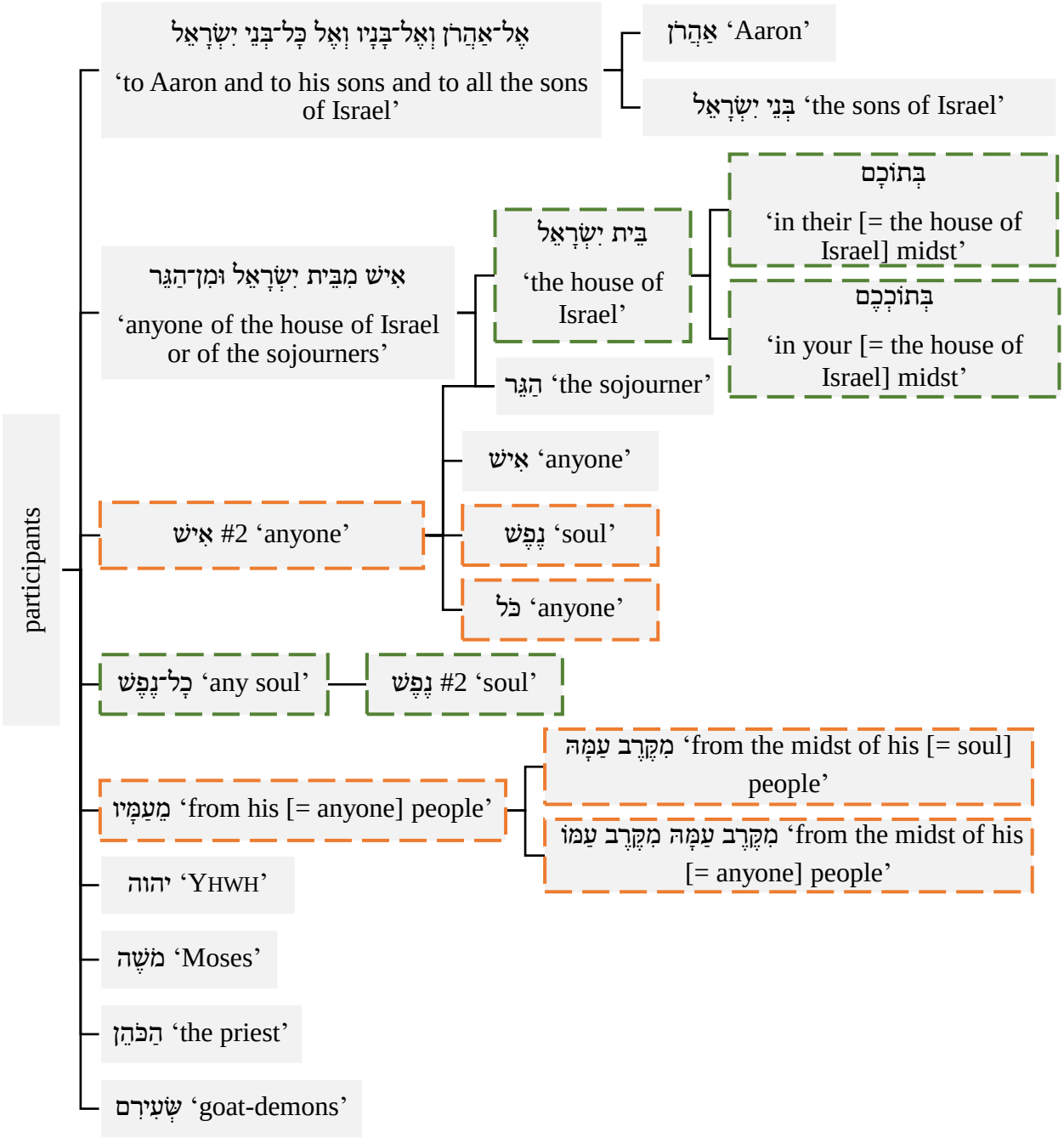

Figure 3.4 Left-to-right hierarchy of human/divine participants in Lev 17. The lines represent part-whole relationships, and dashed boxes represent synonyms

These considerations in mind, the list of participants in Lev 17 can be reduced to fourteen human/divine participants.[120] Figure 3.4 shows the resulting semantic hierarchy of the participants in Lev 17. The semantic hierarchy captures both synonyms, marked by dashed boxes, and part-whole relationships, marked by lines. Part-whole relationships will be the topic of the next section.

Another issue with respect to synonyms concerns the 'foreigners' which is a composite group in Leviticus. In the last part of Lev 18 the audience is warned against obtaining a moral lifestyle similar to the people living in the land of Canaan before the conquest. These people are referred to by הַגּוֹיִם 'the nations' (18:24), יֹשְׁבֶיהָ 'its [= the land] inhabitants' (18:25), and אַנְשֵׁי־הָאָרֶץ 'the men of the land' (18:27). Previously, the audience had been warned against imitating the immoral deeds of the Egyptians (18:3). The Egyptians and the Canaanites are certainly two different ethnic groups and therefore not the same participant. However, in terms of ethics and their role in chapter 18, Egyptians and Canaanites are similar. That is, both groups represent a lifestyle not to be imitated by the Israelites, and they thus function as an ethical contrast to the sons of Israel. For that reason, it is sensible to collocate the references even if some information is lost.

The final example is the well-known command to love one's fellow as oneself (Lev 19:18). In the immediate context, a list of prohibitions concretizes this rule. The list involves a range of participants, including אָחִיךָ 'your brother', עֲמִיתֶךָ 'your fellow countryman', בְּנֵי עַמֶּךָ 'sons of your people', and רֵעֶךָ 'your fellow'. It has been discussed whether these terms specify distinct persons to which the individual addressee has distinct obligations (§2.5.3). Most commentators, however, hold that the references are "near synonyms" (Milgrom 2000, 1655; cf. Magonet 1983). The term 'near synonyms' illustrate well the point being made here. There are hardly any 'real' synonyms, because an author is likely to employ different words in order to accentuate a nuance in the portrayal of a participant. Therefore, the collocation of 'nearly synonymous' participants comes at the expense of accuracy. On the other hand, by collocating those participants, the text becomes readily accessible for analyzing the relationship among those participants that are relatively more distinct than 'near synonymous'. Above all, the degree of granularity depends on the research question.

[120] The fourteen human/divine actors are אֶל־אַהֲרֹן וְאֶל־בָּנָיו וְאֶל כָּל־בְּנֵי יִשְׂרָאֵל 'to Aaron and to his sons and to all the sons of Israel', אַהֲרֹן 'Aaron', בְּנֵי יִשְׂרָאֵל 'the sons of Israel', אִישׁ מִבֵּית יִשְׂרָאֵל וּמִן־הַגֵּר 'anyone of the house of Israel or of the sojourners', בֵּית יִשְׂרָאֵל 'the house of Israel', הַגֵּר 'the sojourner', אִישׁ 'anyone', אִישׁ #2 'anyone', כָּל־נֶפֶשׁ 'any soul', מֵעַמָּיו 'from his [= 'anyone'] people', יהוה 'YHWH', מֹשֶׁה 'Moses', הַכֹּהֵן 'the priest', and שְׂעִירִם 'demon'. For the difference between אִישׁ and אִישׁ #2, cf. §3.3.9.

3.3.9 Part-whole relationships

The last step of Talstra's participant tracking analysis concerns semantic relationships between participants other than purely synonymous. In an example from Exod 19, Talstra (2016b, 21) mentions הָהָר 'the mountain', הַר סִינָי 'mount Sinai', רֹאשׁ הָהָר 'top of the mountain', and תַּחְתִּית הָהָר 'bottom of the mountain' which form a cluster with 'the mountain' as the main actor and the remaining references as dependent actors. These relationships are still formal by nature in that they form *regens-rectum* constructions, and they can therefore probably be captured by a computer algorithm. Another kind of part-whole relationships are the member-group relationships which occur frequently in Lev 17–26. The most apparent example is the complex addressee phrase in Lev 17:2, already discussed (cf. §3.3.1): 'to Aaron and to his sons and to all the sons of Israel'. In this example, three distinct members form a group of addressees. The members of this group can be tracked through the text by means of lexical or morphological marking. However, apart from such semantic relationships signaled by linguistic structure and grammatical marking, many part-whole relationships are almost entirely semantic. The recurrent reference אִישׁ 'a man/anyone' in Lev 17 offers one such case. Lev 17 consists of four major case laws, each unfolding an act undertaken by אִישׁ (17:3, 8, 10, 13). The issue of אִישׁ was already discussed in §3.3.4 where it was argued that the reference does not refer to exactly the same participant despite the identical lexemes. While the first case law refers to a native Israelite alone, the remaining laws include the sojourner. This difference is difficult to capture by an algorithm, however, because the referential differentiation of אִישׁ is only signaled by complex constructions including relative clauses.

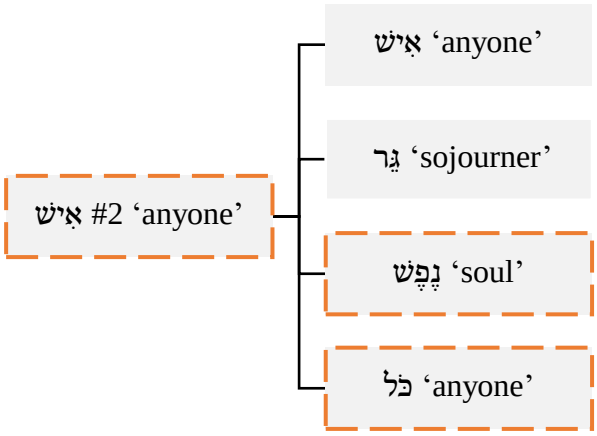

Figure 3.5 Dependency tree of the native Israelite (אִישׁ 'anyone'), the sojourner (גֵּר), and the man being either native Israelite or sojourner (אִישׁ #2 'anyone'). Synonymous relationships are represented by dashed boxes

Nevertheless, even if an algorithm could successfully differentiate the two participants, some referential overlap must be retained for the reason that the case laws which address both the sojourner and the native Israelite (17:8, 10, 13) pertain, by implication, also to the native Israelite mentioned in the first case law (17:3). Put differently, when reference is made to a group of participants, the reference pertains to each of the members. On the other hand, reference made to an individual does not necessarily pertain to the entire group. The relationship between the two participants אִישׁ (v. 3) and אִישׁ (vv. 8, 10, 13) is thus asymmetric. This asymmetric, partly overlapping relationship is illustrated in a dependency tree (Figure 3.5). The dependency tree illustrates both the symmetric and asymmetric relationships pertaining to 'anyone, either native Israelite or sojourner' (אִישׁ #2 'anyone'). As for the symmetric relationships, it has already been explained that נֶפֶשׁ 'soul' is used synonymously with אִישׁ #2 (cf. §3.3.8). The same is true of כֹּל 'anyone'. By implication, the references tracked to נֶפֶשׁ and כֹּל can be mapped onto אִישׁ #2, and vice versa, as illustrated by the dashed boxes. Secondly, the references to אִישׁ #2 can be mapped onto each of its members, the native Israelite and the sojourner. More concretely, the laws concerning burnt offerings outside the sanctuary (v. 8), eating blood (v. 10), pouring blood on the earth (v. 13), and eating corpses (v. 15) apply to both the native Israelite and the sojourner.[121] Importantly, by implication of the asymmetric relationship, the first case law in v. 3 pertains only to the native Israelite (אִישׁ) and is not mapped onto the group, אִישׁ #2, nor the other member of the group (גֵּר). In other words, the prohibition against profane sacrifices (v. 3) does not apply to the sojourner nor to the 'group' consisting of the native Israelite and the sojourner, but exclusively to the native Israelite. This distinction is crucial when we want to map the participants with respect to the events in which they participate and the laws in which they are included. With respect to procedure, to correctly track and delegate the participant references, synonymous relationships must be handled first and asymmetric relationships secondly.

Another example is found in Lev 20. The chapter contains a long list of case laws determining the punishment for engagement in incestual relationships, as well as adultery, homoerotic relationships, and bestiality. The case laws are characterized by a recurrent pattern where the perpetrator is first introduced (most frequently by the indefinite אִישׁ 'a man/anyone') followed by another participant with which the sexual act is committed. Finally, the two participants are subsumed in a plural reference, for example, מוֹת־יוּמְתוּ שְׁנֵיהֶם 'the two of them shall surely die' (20:11). A sophisticated algorithm might be able to track the participants because the two individual participants are now referred to in plural. Even so, the participant tracking must account for the asymmetric relationships

[121] The last case law (v. 15) uses the term כָּל־נֶפֶשׁ 'any soul' (כֹּל 'anyone' in the dependency tree), but since this reference has been marked as synonymous to אִישׁ #2, the law already applies equally to the native Israelite and the sojourner.

between the participants. Strictly speaking, while the death penalty applies to both individual participants, the sexual act does not apply equally to the two individuals, nor to the group reference. Rather, it is אִישׁ 'a man/anyone' who is described as the initiator of the sexual relationship and not the other participant. In other words, it is not 'the two of them' who instigate a sexual act but only 'a man/anyone'. Therefore, the relationship between the group reference and the member references is asymmetric, and references to each of the individuals cannot be inferred as referring to the group as a whole.

Another interesting case is found in Lev 18. In v. 6 the Israelites are prohibited from coming near to כָּל־שְׁאֵר בְּשָׂרוֹ 'anyone of one's close relatives' to uncover their 'nakedness'.[122] The verse is often considered a general law heading the subsequent series of laws (Hartley 1992, 293; Milgrom 2000, 1532–33; Wenham 1979, 253; Levine 1989, 120). Logically, like the general prohibition against sexual intercourse with a close relative subsumes the subsequent list of concrete laws, the participant reference in v. 6 subsumes the subsequent references to close relatives. Accordingly, the participant references referring to concrete family members can be mapped onto the general law in v. 6. This choice is obviously based on purely semantic and literary considerations, since there is no formal linking between the participant in v. 6 and those in the subsequent verses.[123]

In sum, the clustering of participants into hierarchical groups is a complicated, yet important task of participant tracking in order to disambiguate the participants as much as possible without losing too much information. The structuring of participants into asymmetric part-whole relationships allows for a controlled attribution of participant references to the members of a group.

3.3.10 The human/divine participants of Lev 17–26

The eight-step procedure for participant tracking documented above leads to a diminished list of participants. The overall objective of the present study is to inquire the roles and relationships of the human and divine participants of the text. Hence, an additional step involves the manual exclusion of non-human and non-divine participants. In the end, a set of 74 unique human or divine participants can be identified in Lev 17–26. Those participants are listed in Table 3.2 below along with their Biblical references.[124] The participants form the backbone of the Social Network Analysis to be conducted in chapter 5 where the social relationships among the participants will be inquired on the basis

[122] עֶרְוָה 'nakedness' is a euphemism for copulation (Milgrom 2000, 1534).

[123] Only family members are subsumed in the group of 'close relatives'; hence, only the participants in 18:7–15 are included.

[124] Only the first ten references to each participant are listed for the sake of space. For all references, cf. https://github.com/ch-jensen/Roles-and-Relations/blob/main/Participants-and-references_Lev17-26.xlsx.

of their interactions. It should be noted, however, that only 59 of the participants actually qualify for a SNA, since the participants need to occur in interaction with other human/divine participants.[125] Other restrictions apply as well as explained in detail in §5.2.5.

A few participants of the resulting list have required additional disambiguation and/or collocation for the sake of the SNA. As an example, *mother* includes the mother of both *2MSg* (the individually addressed Israelite, e.g., Lev 18:6) and the mother of the third person אִישׁ ‘anyone’ (e.g., 20:9). The same is true of the other relatives listed. As for third person אִישׁ itself, this participant is subsumed under *an_Israelite* along with its synonyms נֶפֶשׁ ‘soul’ and כֹּל ‘anyone’ (cf. the discussion in §3.3.8). Another case of collocation is the subsumption of all quasi-divine beings and idols under *idols* (including Moloch (18:21), goat-demons (17:7), idols (19:4), as well as dead spirits and soothsayers (19:31)). Thus, the list of human/divine participants could be much longer if the participants mentioned here were not collocated. However, for the sake of characterizing the participants of Lev 17–26 over against certain categories (e.g., family members or idols), those measures had to be taken.

Table 3.2 Human/divine participants in Lev 17–26

Participant	References (the first ten)	Participant	References (the first ten)
2MPl	21:8	*group_of_people*	20:5 (×3)
2MSg	18:7 (×3), 8 (×2), 9 (×2), 10 (×3) ...	*Handmaid*	19:20 (×7); 25:6, 44 (×2) ...
Aaron	17:2 (×2); 21:10 (×7), 11 ...	*human_being*	18:5 (×2); 22:5 (×2), 6; 24:17, 20, 21
Aaron’s_sons	17:2 (×2), 5, 6 (×2); 19:22; 21:1 (×3), 2 ...	*Husband*	21:7
Abraham	26:42	*idols*	17:7 (×2); 18:21; 19:4, 31 (×3); 20:2, 3, 4 ...
Egyptians	19:34, 36; 26:13 (×2), 45	*kinsmen*	17:4, 9, 10; 18:29; 19:8; 20:3, 5, 6, 18; 21:1...
Isaac	26:42	*lay-person*	22:4, 10, 13, 14 (×4), 18, 21 (×2) ...
Israelites	17:2 (×2), 3, 5 (×4), 7 (×3) ...	*male*	18:22; 20:13 (×4)
Jacob	26:42	*man*	19:20
Levite	25:32, 33 (×4), 34 (×2)	*man/woman*	20:27 (×5)
Moses	17:1, 2 (×2), 8; 18:1, 2 (×2); 19:1, 2 (×2) ...	*mother*	18:6, 7 (×3), 9, 13 (×2); 19:3; 20:9 (×2) ...
Shelomith	24:10, 11 (×2)	*no-one*	26:17, 36, 37
YHWH	17:1 (×2), 2 (×2), 4, 5 (×2), 6 (×2), 9 ...	*offspring*	18:21; 20:2, 3, 4; 21:15; 22:13
an_Israelite	17:3 (×3), 4 (×5), 8 (×2) ...	*poor*	19:10, 15; 23:22

[125] The excluded participants are *son*, *father's_brother*, *Egyptians*, *blemished_man*, *resident_laborer*, *resident_with_priest*, *Shelomith*, *redeemer*, *Levite*, *sojourner's descendants*, *ten_women*, *ancestors*, *Jacob*, *Isaac*, and *Abraham*.

ancestors	26:39, 40	*purchaser*	25:27 (×2), 28 (×2), 30 (×2)
aunt	18:6, 12 (×2), 13 (×2); 20:19 (×2)	*redeemer*	25:25 (×3), 26
aunt-in-law	18:6, 14 (×3); 20:20 (×4)	*relative*	21:2 (×2), 3 (×4)
blasphemer	24:10 (×3), 11 (×4), 12, 14 (×2) ...	*remnants*	26:36 (×5), 37 (×2), 39 (×3) ...
blemished_man	21:18 (×2), 19 (×2), 20	*resident_laborer*	22:10
blind	19:14	*resident_with_priest*	22:11 (×2)
brother	18:16 (×2); 19:11, 13, 15, 16 (×2), 17 (×3) ...	*rich*	19:15
brother's_brother	25:48, 49	*sister*	18:6, 9 (×2), 11 (×3); 20:17 (×4) ...
brother's_uncle	25:49	*sister_of_woman*	18:18 (×2)
children	25:46 (×2); 26:29 (×2)	*slave*	22:11 (×2)
clan	25:10, 41	*sojourner*	17:8 (×3), 9 (×3), 10 (×4) ...
corpse	21:1, 11; 22:4; 26:30	*sojourner's descendants*	25:45
daughter	19:29 (×2); 21:9 (×5); 22:12 (×3) ...	*son*	18:10, 15
daughter-in-law	18:6, 15 (×3); 20:12 (×4)	*son_of_brother*	25:41, 54
deaf	19:14	*sons_of_sojourners*	25:45 (×6), 46 (×2)
elderly	19:32 (×2)	*ten_women*	26:26 (×2)
father	18:6, 7, 8 (×2), 9, 11, 12 (×2), 14; 19:3 ...	*virgin*	21:13, 14
father's_brother	18:14 (×2)	*widowed/expelled/defiled_woman*	21:7 (×3), 14 (×2)
father's_wife	18:6, 8 (×2), 11; 20:11 (×4)	*witnesses*	24:11, 12 (×2), 14
fellow's_wife	18:6, 16 (×2), 20 (×2); 20:10 (×3), 21 (×2) ...	*woman*	18:17 (×4), 18 (×2), 19 (×2), 22, 23 ...
foreign_nations	18:24, 25, 27 (×2), 28 (×2); 20:23 (×3), 24 ...	*woman_and_her_daughter*	18:17 (×2)
granddaughter	18:6, 10	*woman_and_her_mother*	20:14 (×2)
granddaughter_of_woman	18:17 (×2)	*woman_in_menstruation*	20:18 (×5)

3.3.11 Summary

This section has discussed concrete participant tracking phenomena in Lev 17–26 pertaining to Talstra's eight step methodology. Above all, unexpected results achieved by the algorithm often reveal complex linguistic structures and the boundaries of a purely formal approach. Nevertheless, the often-successful parsing of highly complex phrases into embedded participants shows the usefulness of an automated tracking program. It was shown that some issues are likely to be resolved by small improvements of the participant tracking algorithm. Nominal clauses can be parsed according to definiteness in order to determine subject and predicate status as well as the overall function of the clause (identifying vs. classifying). This task is crucial for participant tracking given that identifying clauses involve one participant while classifying clauses contain two participants. Definiteness was also

proposed as the means by which actors only occurring once in a chapter could be handled. It was shown that otherwise referring entities were missed in the dataset due to the constraint of co-reference. Another issue turned out to be more complicated. Some participant references are identical, although they evidently refer to different participants. The most important example in this respect is the reference אִישׁ 'a man/anyone' which occurs frequently in legal texts, often in reference to a hypothetical person in a specific condition. The participant is often disambiguated by modifying complex phrases, relative clauses, or temporal/circumstantial clauses. In order to better account for legal texts, a participant tracking algorithm should take these linguistic structures into account. Other phenomena are less likely to be resolved by improvements of the algorithm. Firstly, the frequent 1st person references to the divine speaker in Moses' speeches violate normal communication patterns. It was argued that the shifts to 1st person were intentional, rhetorical devices in order to create an impression of a direct speech from YHWH to the people of Israel. Similarly, the often-noted participant shifts between plural and singular in references to the addressees also violate normal communication patterns, arguably for rhetorical purposes. Finally, it was shown that distinct references may refer to the same participant (synonyms) or form a group of participants (part-whole relationships). It was argued that participants need to be conceptualized in terms of a hierarchy because groups and members form asymmetric relationships. Admittedly, such a hierarchy cannot rely exclusively on grammatical and structural marking but requires semantic and literary considerations.

3.4 Conclusion

This chapter has explored a dataset of participant tracking in Lev 17–26 developed by Talstra. Above all, the chapter supports the claim that participant resolution can be significantly informed by the application of computational, formalized approaches. In fact, although Talstra mainly developed his participant tracking programs for narrative and prophetic texts, they do work well in law texts as well. This observation is important, since it supports the notion of Biblical law as literature – apart from lending credit to Talstra's advanced computer programs. Even though Biblical law differs from narratives in many respects, they do follow some of the same literary conventions, such as (re)introduction of participants by means of proper names or full NPs, as well as references to already introduced participants by means of morphological marking. One major difference seems to be the common use of the indefinite אִישׁ 'a man/anyone' in law texts. It refers to a hypothetical, unnamed participant, yet often a participant in a specific circumstance. As a matter of fact, the reference can be employed several times in the same discourse to cast the 'man/anyone' in different legal cases. In order to disambiguate the participant references, the text uses relative clauses, complex phrases, and/or

temporal/circumstantial clauses. Thus, in order for an algorithm to better cope with the legal genre, these common grammatical means by which participants are disambiguated should be accounted for.

As shown, one of the main advantages of a formalized approach – apart from the resulting participant dataset itself – is the fact that an algorithm is not carried away by personal interests or scholarly consensus. The computer program will apply the same rules everywhere and is not sensitive to literary or theological considerations. That said, the computer is certainly not right everywhere. Participant tracking relies on semantics as well as syntax, and the former is difficult to formalize. However, discrepancies between the results of a computer and a human interpreter usually point to complexities in the text. Sometimes, these complexities can be resolved by improving the algorithm, but not always. If there are ambiguities in the text, they may signal literary conventions foreign to modern interpreters, or they may signal pragmatic issues, for example the deliberate conflation of YHWH and Moses in Moses' 1st person references to YHWH.

Talstra's dataset does not reflect a 'complete' tracking of participants. Neither does my own revised dataset resulting from the further analysis documented in this chapter. Perhaps there is no such thing as a 'complete' or 'perfect' participant tracking analysis. After all, participants of a text are not completely discrete entities but often overlap to a certain extent. In H this phenomenon is probably most evident in the claim that the Israelites are גֵּרִים וְתוֹשָׁבִים 'resident sojourners' in the land of YHWH (25:23). This reference is also used to describe the non-Israelite sojourners residing in the land and even as a description of how the poor Israelite fellow is to be treated; as a גֵּר וְתוֹשָׁב 'residing sojourner' (25:35). Thus, participant references are often conflated deliberately to convey a certain message, and the distinction between sojourners and Israelites is blurred. For that reason, participant tracking is not only about data production and clear-cut delineations of participants. Rather, participant tracking is an open-ended endeavor that continues to reveal complexities, literary conventions, curious abnormalities, and ideological concerns. In conclusion, then, I therefore agree with Talstra: "It is clear that this research is very much in the experimental stage. That is, however, only a problem if one is just waiting for the final results to apply them. It is, in my experience, a much more fruitful attitude to accept that this ongoing research to enrich the Old Testament database is not just data production, but at the same time is also fundamental research in Hebrew language and in Old Testament texts" (Talstra 2016a, 242).

CHAPTER FOUR

SEMANTIC ROLES

4.1 Introduction

Fundamental to the interpretation of discourse is the question as to how the textual participants relate to one another. Thus, in order to grasp the meaning of a text, it is not enough to be able to track down the references to each participant. We need to go at least one step further, that is, to ponder *how* these participants are represented and *what* their roles are. The purpose of this chapter, then, is to explore how participants can be conceptualized in terms of their semantic roles in the text. Only in the next chapter, we will discuss the *social* roles of the participants.

The participants may be involved in a diversity of events, including speech, transaction, motion, creation, and cultic events. In fact, there are 181 unique verbal predicates in the Holiness Code, corresponding to 181 different events, although some events may be semantically similar. The question is how these events can be quantified. For instance, how can a speech event be compared to a transaction event? The claim of this chapter is that events can be quantified with respect to the agency invested by the participants involved. Agency relates to semantic parameters such as activity, volition, causation, and sentience, and each participant can be quantified according to those parameters. The ultimate purpose of this chapter, then, is to propose a hierarchy of semantic roles with respect to agency in order to quantify participant roles and compare events of various kinds. The starting point of inquiry is the syntax-semantic interface of Role and Reference Grammar (RRG) which provides a framework for logically deriving semantic roles on the basis of verbal event structures, so-called logical structures. It will be argued, however, that the logical structures do not by themselves yield a measure of agency. Therefore, the hierarchy of semantic roles will also rely on other parameters, including the semantic transitivity framework proposed by Åshild Næss (2007).

The outline of this chapter is as follows. In §4.2 the theoretical frameworks of RRG and semantic transitivity will be unfolded and discussed with an eye to capturing a measure of agency. In this respect, it will be argued that two verbal properties are crucial, namely dynamicity and causation. §4.3 will discuss how BH morphology and syntax correlate with dynamicity, and a quantitative approach will be proposed as a means to capturing this semantic notion. §4.4 discusses the BH morphological and lexical causatives and explores a quantitative method for distinguishing causative and

non-causative verbs. In §4.5 a hierarchy of semantic roles will be presented, before §4.6 completes this chapter by summarizing the results.[126]

4.2 Towards a framework for capturing agency

4.2.1 RRG and Biblical Hebrew

Role and Reference Grammar is a linguistic theory which views syntax, semantics, and pragmatics as interactional components in language (Foley and Van Valin 1984; Van Valin and LaPolla 1997; Van Valin 2005).[127] While a Chomskian generative grammar views syntax as a self-contained object of study, RRG, like other functional theories, views language as "a system of communicative social action" which employs grammatical structures to express meaning (Van Valin 2005, 1). Thus, all languages can express the same meaning, but they may do so by employing quite different syntactic structures. RRG, then, is a description of how syntax, semantics, and discourse-pragmatics interact, and it offers a 'linking algorithm' for representing the bidirectional links between syntax and semantics, including the role which discourse-pragmatic plays in the linking.

RRG grew out of an interest in how linguistic theory would look like if it was not merely based on an analysis of English but on languages with diverse syntactic structures such as Lakhota, Tagalog and Dyirbal (Van Valin 2005, 1). For that reason, the theory is a good candidate for exploring the correspondence of syntax and semantics in an ancient language like Biblical Hebrew. Some important work has already been done on describing a Role and Reference Grammar of Biblical Hebrew. The earliest work was Nicolai Winther-Nielsen's (1995) dissertation on interclausal connections in the Book of Joshua. Later works include RRG decomposition of BH verbs (Winther-Nielsen 2016; 2017), information structure (Winther-Nielsen 2015), as well as the development of an RRG parser of the BH text (Winther-Nielsen 2008; 2009; 2012). At the time of writing, this work is carried on by Winther-Nielsen and this author in cooperation with Laura Kallmeyer and her research team at the Heinrich Heine Universität in Düsseldorf on the TreeGraSP project, short for "Tree rewriting grammars and the syntax-semantics interface: From grammar development to semantic parsing".[128] Also employing RRG, among other theories, Peter Bekins (2014) investigated the syntactic variations

[126] The programming scripts and resulting datasets of this chapter are accessible on https://github.com/ch-jensen/semantic-roles. The verbal aspects and semantic roles discussed in this chapter are summarized in an interlinear layout in the appendix.

[127] A concise introduction to RRG is given in Van Valin (2010) while Pavey (2010) offers a beginner's introduction.

[128] https://treegrasp.phil.hhu.de/.

pertaining to the prepositional object marker אֵת. Finally, RRG was employed by this author to explore the rhetorical structure of the book of Zechariah (Jensen 2017).

Although RRG was developed for the purpose of describing languages with diverse structures, for the most part, the languages under consideration were living languages. The main challenge for exploring the semantics of BH is the absence of native speakers; a challenge obviously shared by other methods aimed at inquiring the semantics of BH. Consequently, the lexical decomposition carried out in the present study diverges from traditional RRG approaches by the application of a quantitative corpus-linguistic basis for interpretation. In the remainder of this section, the theoretical implications of applying RRG to the study of BH verbs will be discussed. Three related topics will be addressed in turn: 1) the correlation between lexical decomposition, semantic roles, and agency; 2) the methodological challenge of deriving the lexical aspect of verbs from an ancient corpus; and 3) the semantic representation of verbs in RRG logical structures.

4.2.2 Semantic roles and agency

The term agency refers to the intuitive notion that some participants seem to be more controlling, instigating, volitional, and sentient than others. Those participants are often labeled ‘agents’. By contrast, non-controlling, non-instigating, and non-volitional participants are usually labeled ‘patients’. A vast number of studies have scrutinized how agency relates to the semantic relationship between the predicate and its arguments, but with mixed results (e.g., Fillmore 1968; Delancey 1984; Talmy 1985; Van Valin and Wilkins 1996; Dowty 1991; Næss 2007; Rappaport Hovav 2008; Croft 2012). Indeed, as David R. Dowty notes, the agent role “is one of the most frequently cited roles, and it is in some sense a very intuitive role, but it is one of the hardest to pin down” (1991, 553). All agree that the agent role – and other semantic roles for that matter – expresses a semantic relationship between a participant and the predicate. But are semantic roles discrete entities or rather clusters of semantic properties? And moreover, is agency a specific property indexed by the predicate, or should agency rather be understood as a matter of degree entailed by the predicate?

Charles J. Fillmore (1968), in his classic *The Case for Case*, recently published in a collection of his essays (2003), argued for the former position. Verbs, he argued, are related to specific deep cases (semantic roles) according to their inherent semantic properties. That is, verbs are selected according to the semantic environment of the sentence (called ‘case frame’) expressed by the cases. A case frame with an agentive case, for instance, accepts only verbs that are subclassified for this

feature, that is, the verb is required to accept an agentive case.[129] Thus, according to Fillmore's case system, each verb can be semantically classified according to the case frame(s) by which it is accepted. The strength and lasting influence of Fillmore's case system was its linking between the semantic 'deep structure' and the syntactic 'surface structure' of a proposition. That is, the role of a participant is not determined by its surface case (be it the subject or object) but by its deep case. In many cases, the subject indeed has the agent role, but not necessarily, as demonstrated by the following sentences (Fillmore 2003, 47):

(4.1) a. John opened the door.

b. The door was opened by John.

It is evident in (4.1) that the subject need not be the agent. The passive construction in (4.1b) expresses the agent with a prepositional phrase, while the subject is the semantic patient. Thus, the sentences are deep-structurally identical, and the deep case structure determines the roles of the participants.

One of the major obstacles for Fillmore's thesis was the fact that a verb may be accepted by several case frames. For instance, the verb 'open' can occur in at least four different case frames according to Fillmore (2003, 49), including case frames with 1) an objective;[130] 2) an objective + an agent; 3) an objective + an instrument; and 4) an objective, agent, and instrument. To remedy for this potential proliferation of case frames, Fillmore suggested that only the simplest frame should be considered obligatory (no. 1), while the remaining were optional extensions. Nevertheless, the approach lacks a controlled way of relating verbs and case frames. Moreover, there is no good reason why Fillmore's list of case roles should not be longer than the six suggested (agentive, instrumental, dative, factitive, locative, and objective), and he admits that additional cases are surely needed (Fillmore 2003, 46). But there does not seem to be an internal, methodological constraint in the number and definitions of cases.

This lack of methodological control was brought to attention by Dowty (1991) who argued for completely abandoning the notion of discrete deep cases, or thematic roles to use his terminology.[131]

[129] The agentive case is "the case of the typically animate perceived instigator of the action identified by the verb" (Fillmore 2003, 46).

[130] In Fillmore's Case Grammar, the objective is the semantically most neutral deep case and is "the case of anything representable by a noun whose role in the action or state identified by the verb is identified by the semantic interpretation of the verb itself; conceivably the concept should be limited to things which are affected by the action or state identified by the verb" (Fillmore 2003, 46).

[131] Dowty considered Fillmore's case roles a theory among other "argument-indexing" views of thematic roles, that is, according to these theories, the predicate entails or indexes exactly one case/thematic role to each NP.

In particular, Dowty (1991, 561) objected that existing theories of thematic role determination lacked a principled way to account for what kind of data motivates a thematic role type. For one thing, there was a tendency for proliferation in lists of thematic roles. In addition, there was (and is) disagreement on the definitions of even the most familiar roles. According to Dowty, the lack of consensus as regards a shortlist of thematic roles seems to discount a view of thematic roles as argument-indexing.[132] Most important for Dowty's objections, however, are the theoretical and practical limitations of the case role system because it requires each verb to clearly and definitely subcategorize for a particular thematic role. For the system to work, it cannot allow verbs to "hover over two roles, or to 'fall in the cracks' between roles" (1991, 549). The solution to these problems, according to Dowty, is to view semantic roles not as discrete roles but as cluster concepts. That is, a verb does not determine a specific role but rather imposes entailments on its arguments by virtue of the role the arguments play in the verbal event. Dowty proposed two proto-roles, the proto-agent and the proto-patient, which correspond to two extremes of agency property entailment. For instance, the agent proto-role is characterized by volition, sentience, and causation, while the patient proto-role is characterized by undergoing change of state, stativity, and being causally affected. The verb may entail one or more of these properties to its arguments. Thus, in predicates with grammatical subject and object, the argument lexicalized as the subject is the argument for which the predicate entails the highest number of proto-agent features. The argument lexicalized as the object is the argument with the highest number of proto-patient features. As a result, in contrast to Fillmore's Case Grammar, Dowty's system does not dependent on a specific list of semantic roles that can account for all kinds of verbal events with the inherent risk of role proliferation. Rather, the semantic roles are determined on the basis of a more intuitive notion of agency.

One of the critiques raised against Dowty's proto-role theory is that there are no priorities among the entailments (Koenig and Davis 2001, 81–83). While Dowty (1991, 574) himself suggests that causation is the most important entailment for subject selection, in effect, according to his system it is only the number of entailments that count. Since his lists of proto-role entailments are "preliminary" and not "necessarily exhaustive", the argument selection inevitably becomes a bit fuzzy (1991, 572). In fact, Dowty admits that his proto-roles are indeed "fuzzy" in that they are "higher-order generalization about lexical meanings" (1991, 577). Nevertheless, Dowty is right to point out the compositional nature of agency, and in this respect his work is also relevant for the present study.

[132] The most common thematic roles are agent, patient, dative, instrument, benefactive, locative, associative, and manner (Givón 2001a, 1:107). However, in reality, the lists of thematic roles tend to grow wild, and one might want to include at least theme, goal, and source to Givón's list of semantic roles.

More recently, Næss (2007) has offered another profound critique of traditional argument-indexing approaches. Her main objection is worth citing in length:

> The problem with thematic role theory is the absolute correlation it assumes between a verbal lexeme and the semantic properties of its arguments: a given verb must be taken to always subcategorise for the same set of thematic roles, and this leads to difficulties for verbs which seem to be compatible with several different role-types. A verb such as English *break*, for instance, may take a volitionally instigating subject argument, an agent: *John broke the window (on purpose)*. However, the property of volitionality is not actually required; *break* may equally well take a nonvolitional subject argument (*John accidentally broke the window*), an inanimate force (*The bolt of lightning broke the window*) or even an instrument (*The hammer broke the window*). In the light of these data, which thematic role should one postulate for the subject argument of break? (Næss 2007, 107; italics original)

Like Dowty, Næss abandons the concept of thematic roles. Rather, in a revision of Paul J. Hopper and Sandra A. Thompson's (1980) classic 'Transitivity Hypothesis',[133] she offers a 'Maximally Distinguished Arguments Hypothesis' which she defines as follows:

> A prototypical transitive clause is one where the two participants are maximally semantically distinct in terms of their roles in the event described by the clause. (Næss 2007, 30)

The two maximally distinct participants in transitive clauses are labeled 'agent' and 'patient'. That they are maximally distinct means that the properties of the agent are not shared by the patient, and vice versa. Importantly for the present discussion, Næss does not assume these semantic roles to be indexed or selected by the verb. According to Næss, verbs do not subcategorize for specific thematic roles (e.g., agent and patient), but rather for semantic properties (instigation, volition, and affectedness). Therefore, 'agent' and 'patient' are not thematic roles lexicalized by specific verbs, but clusters of properties exhibited by the arguments of the verb (Næss 2007, 37). To illustrate the implications of Næss' approach, compare the sentences with 'break' from the quotation above, repeated here:

[133] According to Hopper and Thompson (1980), transitivity is best understood as an exchange or 'transfer' between two participants. The transfer may be more or less effective depending on the type of transfer (the lexical properties of the verb) and the participants involved. The effectiveness of the transfer correlates with an intuitive understanding of agency. A highly efficient exchange, e.g., "John broke the window", requires a controlling and instigating agent and a totally affected patient. Less efficient exchanges, e.g., "John sees Mary" implies a less instigating and volitional agent and a non-affected patient (cf. §4.4.3.1).

(4.2) a. John broke the window (on purpose).
b. John broke the window accidentally.
c. The hammer broke the window.

In terms of volition and affectedness the sentences in (4.2) differ. In the first sentence, John intentionally breaks the window and should be considered an agent. In the second, John is less agentive because he does not want to break the window. And, finally, in the third sentence, a physical object is used as an instrument to break the window. In sum, the subjects in the three sentences have different roles. Accordingly, Næss argues that 'break' does not subcategorize the subject for a certain semantic role but rather a feature, the decisive feature being 'instigation', that is, the subject must be instigator of the event. Apart from verbal semantics, argument NP properties (including animacy, definiteness, and referentiality) and clause-level operators (most importantly negation and aspect) affect the degree of agency (2007, 111–19). In sum, within this framework, semantic roles are not seen as inherent properties subcategorized by the predicate, but as the relation a participant has with the predicate.

In many respects descending from Fillmore's Case Grammar, Role and Reference Grammar offers a linking algorithm for deriving semantic roles from a logical decomposition of verbs.[134] In an early description of the theory, the agent role was considered a thematic relation on par with relations such as instrument, experiencer, and patient (Foley and Van Valin 1984).[135] However, in an important discussion of agency and thematic relations, Robert D. van Valin Jr. and David P. Wilkins (1996) now argued that the agent role is not a lexically determined role but is compositional and derived from the interaction of a number of "morphosyntactic, lexical, semantic, and pragmatic factors which coalesce at the level of the contextualized interpretation of the utterance" (1996, 289). If agency was

[134] Fillmore's Case Grammar and RRG are similar in that they both have direct mapping between syntactic structure and semantic representation. Further, RRG inherited the original Case Grammar's view on grammatical relations like subject and object as non-universal features of natural language. One difference between Case Grammar and RRG is RRG's emphasis on the role of discourse pragmatics in the mapping between syntax and semantics (cf. Van Valin and Wilkins 1996, 305).

[135] In RRG, there is a significant distinction between 'thematic relations' and 'semantic macroroles'. 'Thematic relations' resemble Fillmore's case roles, but they differ in an important respect because there is no listing of thematic relations in the lexical entry of a verb. By contrast, the thematic relationship between a verb and an argument is determined on the basis of the position of the argument in the logical structure representation. By implication, the RRG lexical representation of verbs is not dependent on a fixed list of thematic relations. For logical structures, cf. §4.2.4. There are two 'semantic macroroles', actor and undergoer, both of which subsume a number of thematic relations, and they can be considered generalizations of case roles. RRG offers a linking algorithm to derive the semantic macroroles (cf. Van Valin 2005, 53–67).

a lexical property, three different logical structures should be postulated for the sentences in (4.2), and that would indeed lead to a proliferation of logical structures, as critiqued by Dowty. Therefore, "while there are arguments which are 'pure' effectors, themes, and experiencers, there are no 'pure' agent arguments, because agents are always *composite*" (1996, 308; italics original). The RRG conceptualization of agency was inherited from Dee A. Holisky (1987, 118–19) who argued that the meaning of the agent role is often not a property of the semantic structure of the predicate. Rather, the notion of the agent arises from the semantic intersection of predicate and actor NP. Moreover, she established an important pragmatic principle for interpreting the agent role:

> Pragmatic principle: You may interpret effectors and effector-themes which are human as agents (in the absence of any information to the contrary). (Holisky 1987, 119)

In RRG the effector role is void of features like volition and control and simply refers to the actor of an activity (represented as **do′**). Following Holisky, if the participant is human and the pragmatic context does not provide evidence to the contrary, the effector can be construed as the agent. Accordingly, the sentences in (4.2) all have an effector subject. Whether the effector is an agent depends on the pragmatic context. The first sentence does not provide evidence to the contrary, so John can be construed as an agent. In the second sentence, the adverb 'accidentally' cancels the pragmatic implicature of agency, while 'hammer' in the third sentence is not animate, so the agency inference is not applicable. Some verbs do in fact lexicalize for the agent role. In English the verb 'murder' requires an agent actor because the agency inference cannot be cancelled by an agency-cancelling adverb such as 'inadvertently' (e.g., "*Larry inadvertently murdered his neighbor"), unlike 'kill' (Van Valin and Wilkins 1996, 310). While English only has a few verbs that lexicalize for the agent role, most verbs do not. Japanese, by contrast, seems to contain many more verbs which lexicalize for the agent role (Van Valin 2005, 56–57; cf. Hasegawa 1996). Thus, despite objections to argument-indexing theories, thematic relations are retained in RRG. Importantly, however, the concept of thematic relations in RRG is not dependent upon a specific list or concrete definitions of relations. Rather, the meaning of the thematic relations is their logical positions within the semantic representation of the predicate irrespective of any label one might postulate. RRG therefore offers a controlled framework for investigating the semantic relationship between predicates and arguments.

The overall purpose of this chapter is to establish a hierarchy of semantic roles on the basis of a structured verbal analysis. This objective transcends the logical analysis of verbs offered by RRG, because agency is compositional and arises from the intersection of predicate, arguments, and discourse pragmatics, as explained above. However, lexical decomposition of verbs is not irrelevant for

an analysis of agency. On the contrary, the thematic relations derived from a semantic representation of the verb constrain the notion of agency, since only the effector role can possibly be agent. Accordingly, this study will apply the RRG theory of lexical decomposition to derive logical structures and thematic relations from Biblical Hebrew verbs. On top of this framework, Næss' parameters of agency (instigation, volition, and affectedness) will be applied to determine the degree of agency for each participant and to establish a hierarchy of semantic roles.

4.2.3 Decomposition of verb classes

Lexical decomposition is the task of decomposing lexemes into the most general categories possible in order to pose general criteria for how verbs function in the language. Ray Jackendoff (2002) likens lexical decomposition to physicists' quest for explaining the composition of substances. A molecule is decomposed into atoms, and the atoms themselves can be decomposed into protons, neutrons, and electrons. Similarly, lexical decomposition is the task of decomposing lexemes into more generic sets of primitives. As with thematic roles discussed above, there is an inherent risk in lexical decomposition for proliferation. Nevertheless, lexical decomposition is about posing the fewest and simplest primitives to account for the greatest lexical diversity.

With respect to verbs, Zeno Vendler (1957) famously proposed four verbal classes: states, activities, achievements, and accomplishments. Later, other classes were added, including the semelfactive, that is, a punctual event with no change of state implied (C. S. Smith 1991). In canonical RRG, six verbal classes have been proposed (apart from Vendler's classes, semelfactive and active accomplishment), each of which with a causative correspondent, because, as will be shown, causation interferes with the regular verbal classes. In RRG, the verbal classes are called *Aktionsart*, but other terms occur frequently in the literature: 'inherent aspect' (Comrie 1976), 'situation aspect' (Smith 1991), 'lexical aspect' (Olsen 1997), 'event ontology' (Parsons 1979), and 'internal structure of an event' (Goldfajn 1998). One of the main questions to address is where the aspectual meaning is 'located'. While Vendler admitted the possibility that other constituents in the sentence may affect the aspect of the verb, he did not explore this further. However, Henk J. Verkuyl (1972) was soon to argue that the aspect of the verb should in fact be assigned to the entire verb phrase, thus arguing for a composite nature of aspect including the verb itself and other constituents in the phrase. Carlota S. Smith (1991) also argued for a compositional notion of aspect. For C. S. Smith, the verb is important, but it is not the only parameter. Nominals and prepositions also add to the resulting aspect of the sentence. C. S. Smith argued for a set of "compositional rules" in order to calculate a "composite value" from the composition of verb, arguments and adverbials (1991, 54). In effect, C. S. Smith argued that the "intrinsic aspectual value" of the verb could be overwritten by other elements in the

syntax. Accordingly, "Verbs have an intrinsic aspectual value, based on its aspectual contribution to a 'maximally simple sentence'" (1991, 54), that is, an intransitive sentence or a sentence with a direct object, and with quantized nominals; compare e.g.:

(4.3) a. Mary walked.
b. Mary walked to school.

Since the verb 'walk' appears meaningfully in the intransitive, atelic sentence (4.3a), the verb is assigned the intrinsic aspectual value 'atelic'. The addition of the telic prepositional phrase 'to school' overwrites the atelic value and renders the sentence telic.

Until then, linguists had thought of aspect as a feature determined by equally valid oppositional components, e.g., the distinction between 'telic' and 'atelic', or 'durative' and 'punctual'. In other words, a verb was usually seen as either telic or atelic, dynamic or stative, and durative or punctual. Mari B. Olsen, however, argued that there is an intrinsic asymmetry between these components:

> [A] careful examination of the features on the basis of the semantic-pragmatic distinction reveals that the features have an asymmetry heretofore unnoticed in the literature: whereas positively marked lexical aspect features ([+telic], [+dynamic], [+durative]) are part of the semantics, interpretations generally attributed to negative features ([-telic], [-dynamic], [-durative]) arise as a result of conversational implicature. (Olsen 1997, 19)

For Olsen, a verb cannot be inherently atelic or inherently punctual because these features are not lexical features but pragmatic (or 'conversational' in the quote above). By implication, according to Olsen's theory, a verb need not be marked for telicity at all. It may simply be unmarked for telicity as illustrated in (4.4b). In more general terms, Olsen views the semantic oppositions as 'privative', that is, the two semantic features opposed are not equally marked. In her semantic analysis, only positive features are marked while negative features are optional. By contrast, the traditional view on semantic oppositions may be called 'equipollent' because the two semantic features opposed have equal weight or are equally marked.[136] The difference between the classical, 'equipollent' representation of aspect and Olsen's (1997, 21) 'privative' representation of aspect can be illustrated as follows:

(4.4) a. equipollent: run: [-telic, +durative, +dynamic]
b. privative: run: [+durative, +dynamic]

[136] For further explanation, cf. Olsen (1997, 17–22).

In the traditional, equipollent analysis (4.4a), the verb ‘run’ is marked atelic, while in the privative representation (4.4b), the verb is simply unmarked for telicity. The equipollent analysis has a serious drawback because it needs to pose an additional representation of the verb when it occurs with a telic complement, e.g., “Mark ran a mile.” In the privative analysis, on the other hand, there is no need to propose a telic variant, since the telic interpretation does not arise from the verb but from the clausal context.

Olsen’s ‘privative oppositions’ pose a fundamental challenge to the classical tests developed for diagnosing the *Aktionsart* of verbs. Dowty’s (1979) test questions became a popular tool for decomposing verbs into aspectual classes, and they were later incorporated into RRG (Foley and Van Valin 1984; Van Valin and LaPolla 1997; Van Valin 2005). As an example, a test to distinguish states and activities is the progressive test, because only non-statives can normally occur in the progressive (Dowty 1979, 55):[137]

(4.5) a. *John is knowing the answer.
b. John is running.
c. John is building the house.

Similar tests include tests for agency, because states cannot have an agent. Therefore, states cannot occur with verbs such as ‘force’ and ‘persuade’, or as imperatives, according to the theory. Van Valin (2005, 36) adds dynamic adverbs to the pool of non-stative complementizers including ‘vigorously’, ‘gently’, and ‘powerfully’. If, however, Olsen is right in her claim that the dynamic feature is one of ‘privative opposition’, the validity of the tests is brought into question. The problem is that dynamicity and stativity are not symmetric. Stativity is a cancellable feature while dynamicity is not, and this asymmetry implies that states may have both stative and dynamic interpretations, in contrast to activities which are always dynamic. By implication, stative verbs may respond positively to the tests given a pragmatic context that cancels out the stative interpretation as in the following quotation from C. S. Lewis’ *The Magician’s Nephew*: “Digory was disliking his uncle more every minute” (cf. Olsen 1997, 37). In this example, the presence of the adverbials ‘more’ and ‘every minute’ cancels the stativity of the predicate, and the predicate expresses an incremental event. Olsen (1997, 37) adds the otherwise prototypically stative verbs ‘know’ and ‘love’ to the group of verbs that can occur in dynamic contexts. Because stativity is a cancellable feature, stative verbs may vary between a stative and dynamic reading dependent on the pragmatic context. A progressive test will therefore yield both

[137] Some states can occur with the progressive aspect (cf. Van Valin 2005, 35 n. 3).

states and activities. Obviously, the solution is not to propose opposite test questions, e.g., to test whether a verb can occur in a non-progressive form. Both stative and dynamic verbs can occur in the non-progressive, but the dynamic verb would still be interpreted as dynamic in contrast to the stative verb.

If it is inherently flawed to apply test questions for sorting states and activities in modern languages, it is even more so with respect to ancient languages where there are no competent speakers to consult. One may be able to identify dynamic contexts, for example dynamic adverbs that suggest a dynamic interpretation of the sentence as whole. However, if Olsen is right, we should expect to find inherently dynamic as well as stative predicates in those contexts. Therefore, a verb is not necessarily inherently dynamic just because it happens to occur in a dynamic context. On the other hand, even if a verb never occurs in a dynamic context, it may still be dynamic, because we cannot assume a limited corpus to attest all sorts of possible constructions. In this study, therefore, I shall explore a quantitative method for determining the *Aktionsart*, in particular as regards the dynamicity opposition.

4.2.4 Logical structures

In RRG, verb semantics is represented in so-called 'logical structures' according to *Aktionsart* (Van Valin 2005, 45). The purpose of the logical structures is to formally derive semantic roles depending on the *Aktionsart* of the verb. The semantic roles can then be mapped onto the syntax of the clause to determine the semantic roles of the arguments of the verb. There are six *Aktionsart* classes in RRG, each of which with a causative correspondent. As displayed in Table 4.1, the basic distinction is between states (represented as **predicate′** or simply **pred′**), and activities (**do′**). As Van Valin explains, in RRG, "States and activities are taken as the primitive building blocks of the system; they are the only classes which take arguments" (2018, 77). Moreover, unlike Dowty (1979), activities are not assumed as derivable from states, but they are rather two distinct primitives. The remaining classes are derived from this fundamental distinction. Accordingly, the ingressive aspect, the semelfactive aspect, and the resultative aspect are secondary operators modifying states or activities. The ingressive aspect (INGR) refers to instant change, the resultative aspect (BECOME) captures change over a span of time and a resulting state of affairs, while the semelfactive operator (SEML) denotes punctual iterations (Van Valin and LaPolla 1997, 104). Finally, CAUSE expresses the causal relationship between two individual logical structures.

Table 4.1 Logical structures for the *Aktionsart* classes (Van Valin 2005, 45). The variables x, y, and z represent the slots to be filled by lexical items from the syntax

***Aktionsart* class**	**Logical structure**
State	**pred′** (x) or (x, y)
Activity	**do′** (x, [**pred′** (x) or (x, y)]
Achievement	INGR **pred′** (x) or (x, y), or INGR **do′** (x, [**pred′** (x) or (x, y)])
Semelfactive	SEML **pred′** (x) or (x, y), or SEML **do′** (x, [**pred′** (x) or (x, y)])
Accomplishment	BECOME **pred′** (x) or (x, y), or BECOME **do′** (x, [**pred′** (x) or (x, y)])
Active accomplishment	**do′** (x, [**pred$_1$′** (x, (y))]) & INGR **pred$_2$′** (z, x) or (y)
Causative	α CAUSE β, where α and β are logical structures of any type

Later, Van Valin (2018) modified the representation of active accomplishments (most importantly, consumption and creation verbs). Whereas (active) accomplishments were traditionally conceptualized as BECOME **pred′** (x) or (x, y) or BECOME **do′** (x, [**pred′** (x)] or (x, y) for states and activities, respectively, the new representation adds additional nuances to the event structure. As a gradual process towards completion, an (active) accomplishment undergoes a process of change before reaching the point of completion. Accordingly, the BECOME operator has been split into a process (PROC) and a punctual endpoint (INGR) as exemplified below (2018, 85–86):

(4.6) a. Creation of a document: [**do′** (x, [**write′** (x,y)]) ∧ PROC **create′** (y)] & INGR **exist′** (y)

b. Motion to a goal: [**do′** (x, [**run′** (x)]) ∧ PROC **cover.path.distance′** (x,(y))] & INGR **be-at′** (z, x)

In these examples the ∧ means ‘and simultaneously’ and captures the meaning that when someone writes a letter, the letter is simultaneously undergoing a process of creation.

Aktionsart is often defined as the ‘inherent temporal aspect’ of a verb. For that reason, it may seem odd that the causative aspect is included in this model. After all, causation is a logical relation rather than a temporal. However, according to C. S. Smith (1991, 21), *Aktionsart* (or, rather, ‘situation type’ in her terminology) is related to a super-ordinate ‘causal chain’:

Cause – Subject – Action – Instrument – Object – Result

As C. S. Smith (1991, 21) explains, stative situations typically cover only the Object–Result part of the chain, while activities usually cover the first part of the chain. A causative stative can therefore be expected to cover the Cause and the Object-Result parts of the chain. Moreover, causative verbs have an extra argument, namely the causer, and the extra argument has ramifications for the logical structure. When a causer is added, the logical structure must be expanded in order to include the causer, the causee, and the original non-causative object, if any. It is therefore reasonable to include causation in the study of *Aktionsart*.

The purpose of this study is to explore the correlation between Hebrew verbs (primarily those in Lev 17–26) and agency. For that reason, not all aspects of the RRG logical structure theory are equally important. The two most important aspects are 1) the distinction between states and activities because they subcategorize for different thematic relations; and 2) the distinction between causative and non-causative events because causative events add an external causer and, by implication, a new set of thematic relations. The remaining operators add finer distinctions to the logical representation of the verb, but they do not influence the selection of thematic relations; hence, they do not affect the agency of the participants involved.

4.2.5 Annotation procedure

The annotation of *Aktionsart* and agency employs both computational approaches and manual tagging. The bigger part of this study is dedicated to the analysis of the verbal properties: dynamicity and causation. Firstly, dynamicity will be explored, and a quantitative method will be applied to distinguish states and activities (§4.3.2). Despite promising results, many verbs are not captured by the quantitative model due to infrequency and low attestation of adverbials. These verbs will be manually annotated. Secondly, the Hebrew morphological and lexical causatives will be analyzed in turn. A transitivity alternation model will be proposed to identify true morphological causatives (§4.4.2). Next, lexical causatives will be analyzed with respect to semantic transitivity (§4.4.3). Finally, on the basis of the verbal properties as well as argument and clausal features, the semantic roles and their corresponding agency scores will be computed (§4.5). The annotation procedure is sketched in Figure 4.1.

4.2.6 Summary

In sum, much research has been dedicated to the linguistic notion of agency. The discussion above showed that while agency is generally conceptualized as a distinct semantic role, its relationship with the verb is debated. On the one hand, Fillmore (1968) argued that specific case frames select certain verbs, and that verbs subcategorize for certain semantic roles. On the other hand, Dowty (1991)

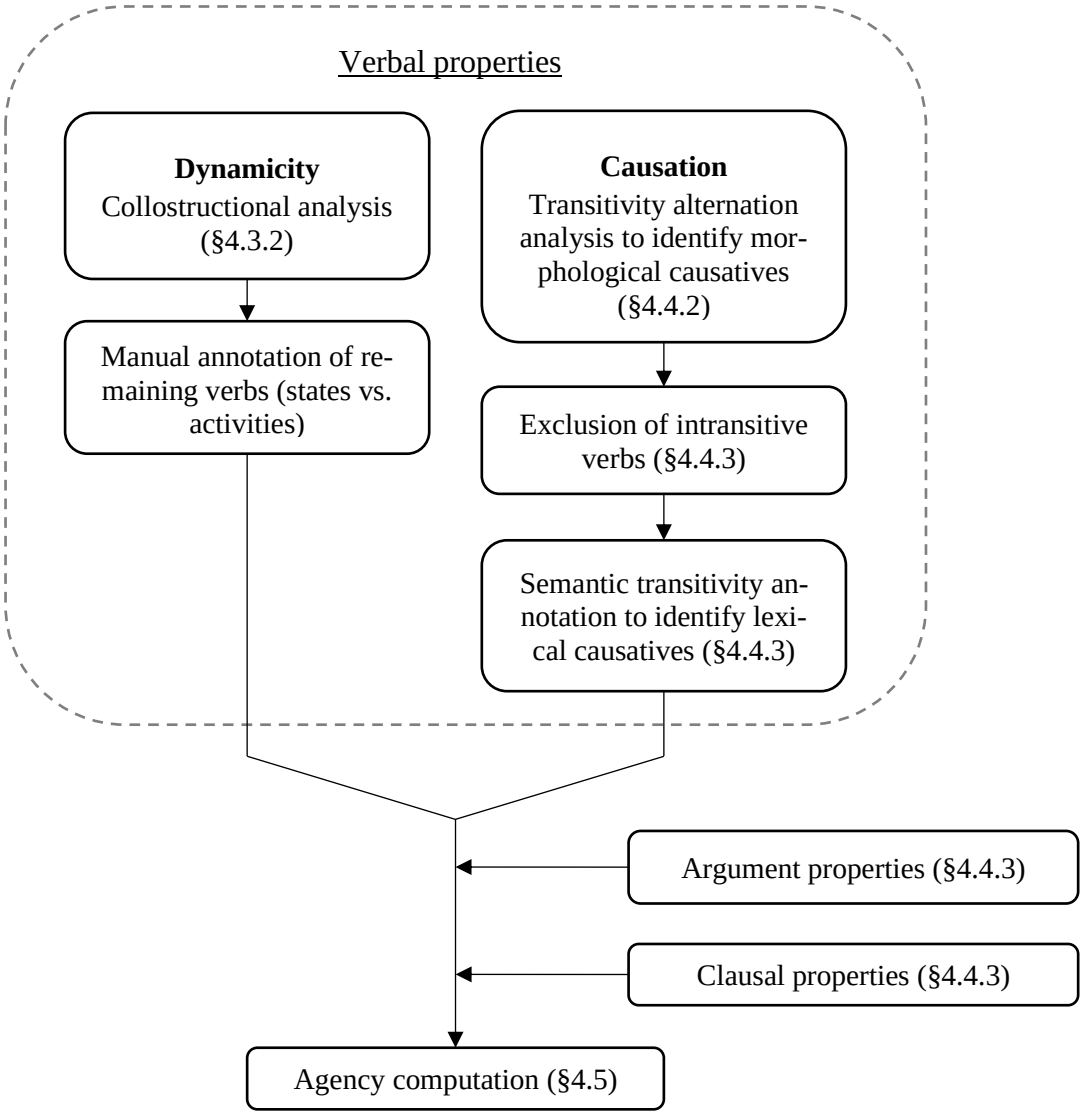

Figure 4.1 Annotation procedure

thought of agency as a cluster concept, that is, verbs entail different degrees of agency rather than specific roles. I have argued with Van Valin and Wilkins (1996) that agency is compositional in nature and depends on verbal features, argument properties as well as pragmatic factors. While a few verbs do indeed subcategorize for the agent role (e.g., 'kill'), most verbs do not. The role that comes closest to the agent role is the effector (i.e., the performer of a dynamic event). Whether the effector is also agent depends on factors outside the verb itself. Although the agent role cannot normally be predicted solely on the basis of verbal semantics, lexical decomposition remains important insofar as the effector is the only semantic role that can possibly be agent. Accordingly, the RRG framework for lexical decomposition of verbs was applied due to its strict procedure of semantic role selection on the basis of verbal semantics and logical structures. Within the RRG framework, only dynamicity

and causation were found to be important for the analysis of agency. Accordingly, in what follows, I will discuss these two aspects, in particular with regard to how they relate to the syntax and morphology of Biblical Hebrew.

4.3 Dynamicity

The priority of the stative-dynamic distinction is not unique to RRG. Dynamicity refers to the universal opposition between situations of movement, activity, and change, and situations without either of these features. Cognitive linguists generally consider the opposition between states and activities the most fundamental opposition as regards verbal aspect (e.g., Dahl 1985, 28). Leonard Talmy (2000, 1:414), in his theory of force dynamics, treats the opposition between rest and motion as a language universal. In RRG, as explained above, all *Aktionsart* classes are derived from the stative-dynamic opposition. For instance, a semelfactive verb is not simply a state or activity; rather, the semelfactive aspect is in fact projected as an operator modifying a state or activity, as exemplified in Van Valin (2005, 47):

(4.7) a. Dana glimpsed the picture. SEML **see′** (Dana, picture)

b. Mary coughed. SEML **do′** (Mary, [**cough′** (Mary)])

Semitic languages, including Biblical Hebrew, support this notion of a fundamental opposition between states and activities. Hebraists have long noted six vowel patterns of which at least three match activities and states, respectively (Waltke and O'Connor 1990, §22.3b). As discussed below, however, the correlation between morphology and *Aktionsart* is not so consistent as might be expected from the vowel patterns.

4.3.1 Previous research on dynamicity in Biblical Hebrew

As an ancient language, Biblical Hebrew is semantically much less accessible for contemporary research than modern languages. Stuart A. Creason (1995, 23–25) rightly notes the limitations for modern inquiries of BH. Firstly, the corpus is limited, and since the corpus is ancient, the corpus cannot be expanded with additional evidence (unless archaeology uncovers related texts). Neither can one consult native speakers of BH. Secondly, due to the limited size of the corpus, many verbs are only attested a few times. And one may add that even relatively frequent verbs may not occur frequently with any adverbial modifier, so contextual evidence is sometimes scarce. Thirdly, the corpus contains a variety of literary genres (including prose, poetry, and prophetic literature) and is assembled of texts

from a range of historical periods.[138] Therefore, a verb may be used differently in different parts of the HB.[139] Semantic decomposition of Biblical Hebrew verbs is thus a tricky endeavor, and Creason's following remark and question capture the challenge – and sometimes frustration – that Hebraists face in their quest for meaning in Biblical Hebrew:

> The kinds of semantic distinctions which are discussed in this study are often subtle ones and this is especially true of the distinctions exhibited by verbs that are ambiguous in meaning. On what basis can one be at all certain that a particular verb does or does not exhibit the kind of semantic distinctions that are the focus of this study? (Creason 1995, 22)

The traditional Dowtian approach is obviously difficult to apply to Biblical Hebrew. As noted above, Dowty's approach depends inherently on a principle of falsification by intuition, and we do not have such an intuition for Biblical Hebrew. There are no native language users to falsify our hypothetical

[138] The question whether the Hebrew Bible contains evidence of well-defined stages of ancient Hebrew remains heavily debated. Recently, Hendel and Joosten (2018) have argued for such three stages of BH, namely, classic (CBH), transitional (TBH), and late Biblical Hebrew (LBH) based on morphological and syntactic variations as well as synchronizations with extra-Biblical inscriptions. While CBH is most commonly associated with the Pentateuch and the Deuteronomic history (Joshua–Kings), other portions of the Bible are sometimes included: Isa 1–39; Hosea; Amos; Obadiah; Micah; Nahum; Habakkuk; Zephaniah; and various Psalms (Hornkohl 2013). In this study, CBH is limited to Genesis–Kings. LBH includes Esther; Daniel; Ezra–Nehemiah; Chronicles; Ecclesiastes; the narrative framework of Job; and various Psalms. TBH is somewhat more debated but it has been suggested that it contains the latter part of Kings; Jeremiah; Isa 40–66; Ezekiel; Haggai; Zechariah; Malachi; and Lamentations (Hornkohl 2013). It has been objected that the syntactic variations between the so-called CBH and LBH point rather to the coexistence of literary styles throughout the Biblical period (e.g., Young, Rezetko, and Ehrensvärd 2008). For a recent overview of the *status quaestionis* and an extensive bibliography of the vast amount of contributions published on this topic in recent years, see Rezetko and Young (2019).

[139] It has been common among Biblical scholars to posit a clear distinction between the verbal usages in prose and poetry. In contrast to prose, poetic language was often considered "transcendent" and beyond "human understanding and analysis" (Van Peursen 2017, 378). According to Van Peursen, however, a number of recent studies on Biblical poetry indeed demonstrate the linguistic regularities of this genre, including Glanz' (2013) investigation of participant reference shifts in Jeremiah (cf. §3.3.6), Oosting's (2013) analysis of the roles of 'Zion' and 'Jerusalem' in Isa 40–55, Kalkman's (2015) study of verbal tenses in the Psalms, Bosman's (2019) dissertation on the relationship between syntactic and prosodic structure in BH poetry, and Erwich's (2020) analysis of participant reference shifts in the Psalms (cf. §3.2.1). Moreover, it has been argued that the difference between these genres with respect to verbs is not one of grammar but "style" (Joosten 2012, 416) or "poetics" (Rogland 2003, 13 n. 70). One major difference between prose and poetry is the often "segmental nature" of the latter which allows the author to shift perspective and theme (Siegismund 2018, 95). Furthermore, as Siegismund (2018, 94–97) explains, poetry is more prone to textual corruption due to the high degree of ambiguity often pertaining to this genre which also explains why it is often possible to pose alternative readings of the Hebrew verbs.

juxtapositions of verbs and certain adverbials or our paraphrases of Hebrew sentences. One may wonder whether rare constructions are "odd" (cf. Jero 2008, 56), but it is impossible to falsify this claim.

Previous research has (rightly) focused on how internal aspect relates to the morphology and syntax of Biblical Hebrew. If we are to consistently decompose Biblical verbs, we need textual evidence, either the morphology of the verb, adverbial modifiers in the clause, or evidence from the discourse. In fact, these parameters have often been combined for comprehensive analyses of the realization of internal aspect. For the sake of providing an overview of the research, however, I will focus on morphology and syntax separately.

4.3.1.1 Morphology

States and activities have traditionally been distinguished on the basis of vowel patterns (Waltke and O'Connor 1990, §22). Activities have an *a* theme vowel in *qātal* and an *ō* theme vowel in *yiqtōl*.[140] For stative verbs, the vowel pattern of *qātal* is changed to *qātel* or, rarely, *qātōl*, whereas the vowel pattern of *yiqtōl* is changed to *yiqtal*. Although the morphological distinction seems to reveal a fundamental semantic distinction, the correlation between morphology and function is not straightforward. As John A. Cook (2002, 201) explains, the diagnostic theme vowel may be obscured by phonological factors, that is, the original theme vowel may be changed due to a pharyngeal or laryngeal in the second or third position in the verbal root. More importantly, the morphological 'stative' class does not always correlate with what we would assume to be semantically stative verbs. For example, the verbs ישׁב 'sit' and עמד 'stand' are morphologically dynamic but semantically stative (Jero 2008, 57–58). Therefore, while the morphological patterns certainly support the assumption that the distinction between stativity and activity is fundamental to Biblical Hebrew, the patterns themselves cannot be taken at face value. Cook (2002, 202–3), however, following G. R. Driver (1936), argues that some verbs must be classified as stative verbs despite their apparent dynamic use (e.g., קרב 'approach' and לבשׁ 'clothe'), because they reveal an original stative sense. Even if this reconstruction of a diachronic development of Hebrew verbs was true, one may argue that it is more fruitful to classify the verbs according to their present context in the Hebrew Bible rather than according to etymology. Etymology and cognate languages certainly provide useful background information, but verbs may take on new meanings and uses without necessarily changing theme vowels.

[140] The 'theme vowel' is the vowel between the second and third consonant in the verbal root. The distinction between *qātal* and *yiqtōl* is most commonly associated with the opposition between perfect and imperfect/non-perfect aspect, respectively (Van der Merwe, Naudé, and Kroeze 2017, §19; Waltke and O'Connor 1990, §30–31).

Within the last three decades, a number of scholars have sought to explore other morphological correspondences with internal aspect. Ronald Hendel (1996), in his analysis of the correspondence between verbal conjugations (in particular, *qātal* and *yiqtōl*) and internal aspect, argued that there is a complex relationship between *qātal* and *yiqtōl*, internal aspect, and relative tense. According to Hendel, stative verbs refer to relative non-future in *qātal* and to relative future in *yiqtōl*. By contrast, dynamic verbs refer to relative past in *qātal* and to relative non-past in *yiqtōl*. By implication, for example, in a simple present frame, a stative verb would normally be *qātal* and a dynamic verb *yiqtōl*. However, Hendel also acknowledged that *qātal* and *yiqtōl* correlate with both viewpoint aspect (perfect vs. imperfect) and mood (indicative vs. modal).[141] Thus, the Biblical Hebrew verbal system is multidimensional and cannot be reduced to a simple mapping of dynamicity and verbal conjugations.[142]

One of the most promising studies on the relationship between the Hebrew stems, the so-called *binyanim*, and semantic features was carried out by A. J. C. Verheij (2000) who set out to explore the forms and functions of the *binyanim* on a quantitative basis.[143] It had long been postulated that certain stems are more telic than others, e.g., *Piel* is supposed to be telic while *Hiphil* is progressive. To test this and other hypotheses, he analyzed the dependence of the Hebrew stems on four semantic parameters: dynamicity, telicity, agency, and transitivity. He found that there is in fact a significant correspondence between agency and transitivity on the one hand and stem on the other hand. Dynamicity and telicity, by contrast, were far more dependent on the lexical root of the verb rather than stem. The present study diverges from Verheij's in important aspects. Most importantly, whereas I will propose a quantitative model for distinguishing dynamic and stative verbs (§4.3.2), Verheij manually annotated his corpus with this feature. In other words, the features of dynamicity (as well as telicity, agency, and transitivity) are presupposed in his statistical analysis. At the basis of his work thus lies a qualitative analysis of the verbs under consideration. My statistical model does not presuppose semantic features but rather employs syntactic features to suggest semantic differentiation. Another

[141] The correlation between relative tense and *qātal*/*yiqtōl* in BH has most recently been readdressed by Siegismund (2018) who argues that *qātal* merely indicates that an event is anterior to a temporal reference point in contrast to *yiqtōl* which is non-anterior. As for the frequent usage of present tense states in *qātal*, Siegismund argues that the form is a relic from a pre-BH period where it expressed a simple predication of the subject. According to Siegismund, then, in BH, present tense states in *qātal* were reanalyzed within the new verbal system, e.g., "I know" (יָדַעְתִּי) could be reinterpreted as "I have come to know"(2018, 87). Apart from this particular verbal form, Siegismund does not incorporate inherent aspect in his grammar of the BH verbal system.

[142] For a useful update on this question, cf. Van der Merwe, Naudé and Kroeze (2017).

[143] For a concise introduction to the *binyanim*, cf. Dan (2013).

important difference between Verheij's study and the present one is his concept of agency. It has already been explained that agency is a multifaceted concept and can hardly be thought of as a binary category (cf. §4.2.2). Verheij, however, treats all his semantic features as binary categories for the sake of his statistical model.[144] Moreover, each combination of root and stem is given only one set of features. This sort of annotation implies that all combinations of, e.g., הלך 'walk' and *Qal* (1,412 attestations in Verheij's corpus) have exactly the same semantic properties (cf. Verheij 2000, 84). Thus, his annotations are contextually insensitive. However, as argued above, agency is a multifaceted parameter and rarely a lexical property. Therefore, the notion of agency depends on the linguistic context and not only on the verb. The sentences with 'break' (cf. 4.2 above) illustrate this well in that the notion of agency depends on the intentionality and animacy of the actor. Thus, considering agency a binary, lexical property is a gross simplification of this semantic feature. In short, therefore, the present study diverges significantly from Verheij's in that Verheij presupposes semantic features for his study of *binyanim* while my study aims at identifying syntactic and morphological clues for identifying those semantic features. Nevertheless, Verheij was a forerunner of applying quantitative methods to the study of Biblical Hebrew, and his work deserves merit in that respect.

In a more recent study, Christopher Jero (2008) likewise explores the relationship between internal aspect and the morphology of Biblical Hebrew verbs. Although his study was limited to the lamentation psalms of the Psalter, the conclusions may be extended to the rest of the Hebrew Bible. Jero observes that for present temporal frames, "Activities and simple states appear as *yiqtol*. Resultative states, whether of resultative events or developmental verbs, appear as *qatal*" (2008, 87). However, the proposed correlation between morphology and internal aspect do not include all verbs, and Jero explicitly counts speech verbs, morphological states, verbs of location, and "translocative verbs" (motion verbs) among "exceptional" cases where the correlation is less than clear (2008, 87–94). The limits of the correlation are important, because at least in CBH (Genesis–Kings), speech verbs, motion verbs, and locative verbs are abundant. At a more fundamental level, Jero's analysis relies on some of the same assumptions as did Hendel's earlier work. According to Jero (2008, 67), the largest correspondence between verb conjugation and internal aspect is observable in present temporal frames. But it is not clear, how those present temporal frames are identified in the first place. Since

[144] Verheij is well aware of the limitations of his model (and quantitative models in general). As he notes, "in-depth quantitative analysis […] entails simplification. It cannot detail the semantic richness of individual words, the way philological scholarship can. In particular, it will reveal general trends and make claims against which counter-examples can be brought forward, as trends never account for all cases. The loss of nuance, however, is compensated by the gain in completeness and the generalizability of the results" (Verheij 2000, 8).

Jero wants to compare the functions of present tense forms and modal forms (including various petitionary forms), he first needs to distinguish indicative and modal forms (2008, 35). He considers various textual evidence, including morphology (long and short forms of the *yiqtōl*), and word order. In the end, however, Jero concludes that although "deontic forms prefer first position" in the clause, he has "ultimately relied on [his] admittedly subjective interpretation of […] each context" (2008, 35). Jero's project demonstrates a general weakness to the study of the correspondence between morphosyntax and semantics. Our conclusions are only as strong as our data model, and if we cannot be sure that a particular use of *qātal* or *yiqtōl* is present or past, indicative or modal, we can only guess as to its correspondence with the internal aspect of the verb.

In his grammar of the BH verbal system, Joosten (2012) rejects a clear correspondence between verbal morphology and internal aspect. On the other hand, he proposes a number of syntactic constructions that correspond with internal aspect, at least to some extent. According to Joosten, the predicative participle (in the sequence Subj-PTC) "adds a nuance of ongoing action comparable to that of the English progressive tenses" (2012, 90). One can expect that this construction is far more compatible with verbs of duration than verbs of punctuality. Joosten offers the difference between נבט HI 'look' and ראה QA 'see' as an example. The former never occurs as a predicative participle, while the latter does so frequently. A survey of the verbs in the Hebrew Bible for which the participle is attested at least 25 times sheds further light upon Joosten's thesis. The survey was carried out by exploring the syntactic role of participles based on the annotations of the ETCBC database. The ETCBC database distinguishes between part-of-speech and phrase-dependent part-of-speech. The former annotation is the result of a morphological analysis of the Hebrew text. The latter annotation is the result of a linguistic analysis of phrases in order to inquire whether a participle has a function above the phrase level (e.g., as a predicate), or whether it functions as a noun within a construct-chain of nouns. Put differently, the part-of-speech tagging comes from a distributional analysis, while the phrase-dependent part-of-speech annotation is the result of a functional analysis.[145] A participle may thus function as a predicate (4.8a), adjective (4.8b), or noun (4.8c), as the following examples illustrate:[146]

[145] For a detailed account, cf. Talstra and Sikkel (2000).

[146] The linguistic representation of the text largely follows the one proposed by Winther-Nielsen (2009). In this representation, function words such as conjunctions and negations are not translated but given function tags. For the sake of simplicity, empty object/subject suffixes on verbs and possessive suffixes on nouns are omitted.

(4.8) a. וְדָוִד יֹשֵׁב בַּמִּדְבָּר

wᵊ- dāwid Ø- Ø- yōšēv- Ø ba- Ø- mmidbār- Ø

CLM- David PTC- QA- sit- M.SG P- ART- wilderness- SG.AB

'But David was sitting in the desert' (1 Sam 26:3).

b. אִשָּׁה זוֹנָה וַחֲלָלָה לֹא יִקָּחוּ

ʔišš- āʰ zōn- āʰ wa- ḥᵃlāll- āʰ lōʔ yi- Ø- qqāḥ- û

woman- F.SG.AB PTC.prostitute- F.SG.AB CR- ADJ.defile- F.SG.AB NEG IMPF- QA- take- 3M.PL

'They may not marry a prostituted or defiled woman' (Lev 21:7).

c. לַמְיַלְּדֹת הָעִבְרִיֹּת

la- Ø- yallᵊd- ōt hā- ʿivrî- ōt

P- ART- PTC.midwife- F.PL.AB ART- ADJ.Hebrew- F.PL.AB

'[And the king of Egypt said] to the midwives of the Hebrews' (Exod 1:15).

If the proportions of the part-of-speech functions are calculated for each verb, a graph can be plotted (Figure 4.2). As the graph shows, verbs such as אמר 'say', כתב 'write', and נגע 'touch' are only attested as predicates (= verb in the graph), and these verbs are clearly associated with activity. At the other end of the graph, verbs like רצח 'kill' (in the sense of 'murderer'), חתן 'be father-in-law',

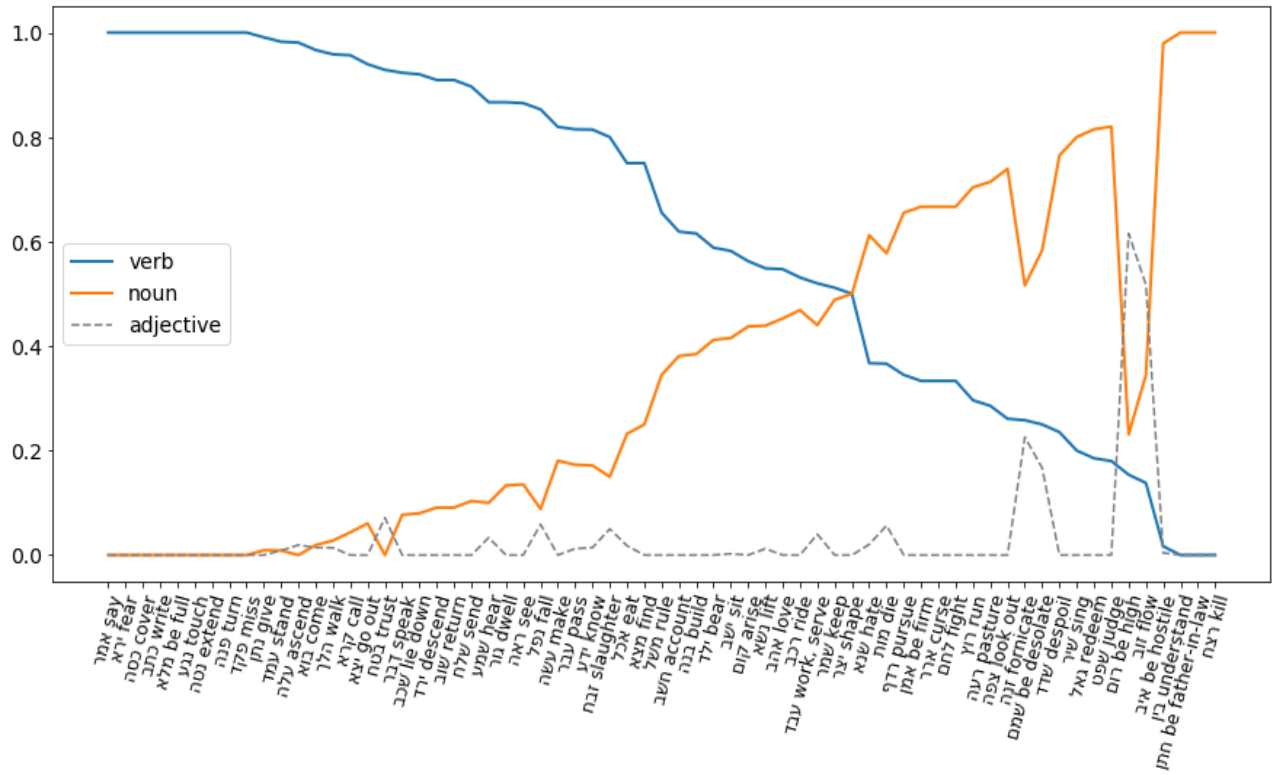

Figure 4.2 Proportions of phrase-dependent part-of-speech for verbs in *Qal*

בין ‘understand’, and איב ‘be hostile’ never, or rarely, occur as either predicate or adjective but only as nouns, that is, as *nomen agentis* (cf. Waltke and O’Connor 1990, §37.2.a). Most interesting are participles occurring frequently as adjectives, such as רום ‘be high’, זוב ‘flow’, זנה ‘fornicate’, שׁמם ‘be desolate’. These verbs correspond to the hypothesis that verbs occurring as adjectival participles tend to be non-punctual.

While the predicative participle may therefore serve as a clue to the internal aspect of the verb, an analysis along these lines is not uncontroversial, since the predicative participle may also be used with punctual verbs to denote duration or iteration of punctual events. The most striking case regards נפל ‘fall’ which is also found in the graph despite its seemingly punctual nature. As Joosten (2012, 90) explains, נפל is typically used as a participle in order to express ‘lying down’ rather than ‘falling’. Thus, even though participles may be more frequently attested with non-punctual verbs given the progressive and durative aspect of participles, punctual verbs are not excluded *per se* from this construction. This observation compromises the use of participles as a diagnostic clue to the internal aspect of verbs.

4.3.1.2 Syntax

A number of Hebrew linguists have followed Verkuyl (1972) in seeing *Aktionsart* as a compositional entity. In his treatment of *Aktionsart* in Biblical Hebrew, Creason (1995) explored how the respective properties of verb and arguments (called participants) contribute to the overall situation depicted in the sentence. He ends up with eight *Aktionsart* classes, including state, semelfactive, atelic achievement, telic achievement, unchanging activity, changing activity, accomplishment, and complex situation (1995, 72–73). In his study, Creason sought to account for “verbal ambiguity”, that is, there is a “potential for ambiguity which is inherent in the nature of a verb” (1995, 5); hence, a verb can refer to two or more different situations. Creason explored stative verbs in detail because this verbal class offers a “primary example” (1995, 73). According to Creason, stative verbs can refer to real states, but they can also refer to ‘change of state’ and to ‘remain-in-state’. The first sub-class, ‘change of state’, seems to cover the ingressive aspect, e.g., “The land became ritually unacceptable” (Lev 18:25).[147] Importantly for the present discussion, Creason (1995, 75) offered two guidelines for distinguishing regular state and change of state, namely, a punctual adverbial in the clause, or a narrative context for the clause. It appears that the narrative context of Lev 18:25 is the reason for Creason’s interpretation of טמא ‘unclean’ (‘ritually unacceptable’ in Creason’s translation) as a change of state. As for the subclass ‘remain-in-state’, it involves clauses where the state is entailed as having existed

[147] In RRG the ingressive aspect is treated as an operator that can modify the *Aktionsart* of a given verb (cf. §4.2.4).

for some time in contrast to regular states where this particular aspect is not important. Creason offered Gen 11:12 as an example: "When Arpachshad had been alive for/remained alive for/lived for 35 years, he begot Shelah." Creason (1995, 77) argued that the "example may be interpreted as referring to a state (be alive) or an event (remain alive/live)."

The so-called verbal ambiguity was later explained by F. W. Dobbs-Allsopp (2000) within the framework of 'privative oppositions' offered by Olsen (1997). Because stativity is a cancellable feature, states can be cancelled for stativity and thus become dynamic. The means to cancelling the stative aspect involve sentential complements and pragmatic contexts, such as a "narrative sequence" or a "punctiliar frame" (2000, 44–45). Above all, fundamental to this approach is the claim that the dynamic interpretation does not arise as a result of the verbal root itself or the conjugation of the verb, but is "implicated from the pragmatic context" (Dobbs-Allsopp 2000, 34).

Creason's and Dobbs-Allsopp's contributions explain well how the pragmatic context influences the situation expressed by the sentence at large. However, this particular approach also seems to presuppose a knowledge of which verbs are stative and which are dynamic. It is difficult to apply those criteria to identify states and activities, respectively, because the same diagnostic clues can yield both states and activities according to the models of these two authors. A narrative sequence, for example, may cancel the stative aspect of a stative verb, but it may also simply be used with a dynamic verb. Consequently, given these theories, the *Aktionsart* of verbs can only be assumed, not falsified.

Relevant to this discussion are Janet W. Dyk's important studies of valence patterns in Biblical Hebrew. Together with her research team she has published a series of articles discussing the meaning of verbs within the context of the clause (Dyk 2014; Dyk, Glanz, and Oosting 2014; Glanz, Oosting, and Dyk 2015; Oosting and Dyk 2017). Above all, their goal was to identify the syntactic circumstances under which a particular meaning of a verb is to be preferred (Dyk, Glanz, and Oosting 2014, 3). According to valence theory, verbs can be divided into groups of valency, that is, into groups characterized by a fixed number of arguments. For instance, the verb in "he kicks the ball" has two arguments, a subject and an object, and is thus transitive (Dyk, Glanz, and Oosting 2014, 4). In order for a verb to be grammatically correct it needs a certain number of arguments depending on some lexical property of the verb. Thus, by analyzing valence patterns, a window is opened into the semantics of the verb. In natural language, verbs, however, are normally attested in a variety of syntactic constellations of different transitivity. The verb 'eat', for example, may occur without an object, as in "he eats," but it may also occur with an object, as in "he eats an apple." This phenomenon is called 'valence expansion' or 'valence reduction', depending on which valence pattern is thought to be the inherent valence pattern of the verb. The project undertaken by Dyk and her team was aimed towards

collecting all valence patterns in the Hebrew Bible and thereby provide a quantitative basis for determining the inherent valence of any Hebrew verb (Dyk, Glanz, and Oosting 2014, 5). As a bottom-up approach, beginning with the syntactic constituents of the text and observing distributional patterns, this valence approach is sympathetic. At the end, however, we are confronted with a fundamental question: Is the most frequent valence pattern evidence of the core meaning of the verb, or should the core meaning of the verb rather be construed from its simplest construction? As an example, עשׂה 'make' occurs most frequently with a single object, but it is also attested without object. The former view would construe the core meaning of עשׂה as 'do', 'make', 'perform', 'observe', while the latter view would interpret its core meaning according to its simplest pattern: 'act', 'take action' (Dyk, Glanz, and Oosting 2014, 18). Consequently, valence-pattern recognition provides a quantitative basis for identifying verbs of similar behavior, but it does not by itself yield the core meaning of the verbs.

Recognizing this fundamental problem, Winther-Nielsen (2017) offered a different approach to verbal valence, exemplified in his account of נתן 'give' in Genesis.[148] In contrast to a bottom-up, distributional approach, Winther-Nielsen employed RRG as a framework for linking Hebrew syntax to universal semantic event structures. According to this framework, meaning cannot be captured simply by procedural rules or by semantic classification of the arguments. Rather, the meaning of a verb arises from mapping universal semantic roles onto language-specific structures. Essentially, and as explained above (§4.2.4), the semantic mapping is handled by lexical decomposition of the verb in order to retrieve its *Aktionsart* and logical structure. As an example, נתן 'give' retrieves its ditransitive logical structure from the lexicon, that is, a causative accomplishment of possession: [**do′** (x, Ø)] CAUSE [BECOME **have′** (z, y)]. Other senses of נתן are retrieved by modifying this basic logical structure into, e.g., causative accomplishment of location ('to place'): [**do′** (x, Ø)] CAUSE [BECOME **be-in′** (z, y)]. The strength of the RRG framework is its linking of syntax and semantics, and, consequently, its ability to account for a diversity of verbal senses while maintaining a core meaning of the verb. On the other hand, this approach seems to assume some existing knowledge of the lexicon, including the *Aktionsart* of the verb; knowledge that we cannot always take for granted. As emphasized above, for a language like Biblical Hebrew with no surviving native speakers, lexical decomposition cannot be carried out in normal fashion by confronting native speakers with hypothetical constructions of sentences. In one way or another, lexical decomposition must be based on the extant text and the actual attestations of verbs and their modifiers.

[148] In a previous work, Winther-Nielsen (2016) classified the 100 most frequent verbs in the Hebrew Bible according to the RRG theory of *Aktionsart* and logical structures.

4.3.1.3 Summary

The internal aspect of verbs in Biblical Hebrew has been the topic of several important dissertations and articles over the last three decades. Above all, linguists have explored how the internal aspect of verbs correlates with morphology (stem and conjugation) and syntax (primarily adverbials and discourse context). The morphology of BH verbs offers a major challenge in that the verbal forms cover a range of meanings and cannot be isolated to a distinction between stativity and activity. On the other hand, explorations into the syntax have revealed how stativity can be cancelled due to pragmatic implicature, but this insight does not help to distinguish states and activities, because dynamic verbs may occur in the same syntactic contexts. Finally, the valence approaches surveyed have two crucial limitations. Firstly, while a bottom-up approach provides a solid quantitative basis for observing patterns of verbs of similar syntactic behavior, it does not yield a core meaning of the verb. Secondly, even though an RRG approach to valence does render a core meaning of the verb by means of the syntax-semantics interface, the classification assumes some prior knowledge of the internal aspect of the verb which cannot simply be assumed.

It is the aim of the present study to pursue a quantitative basis for decomposing lexemes by taking the distribution of adverbial modifiers into account. If at least a primitive notion of *Aktionsart* can be gained by means of distributional statistics, a full-fledged RRG analysis of Biblical Hebrew verbs can be carried out more firmly.

4.3.2 A collostructional analysis of verbs and spatial modifiers

As discussed above, a qualitative approach to lexical decompositions has serious drawbacks for a language like Biblical Hebrew. Therefore, the purpose of what follows is to propose and demonstrate a quantitative analysis of Biblical Hebrew verbal predicates. A quantitative approach takes seriously the frequency of a constellation based on the assumption that frequency more or less reflects "degrees of conventionalization" of linguistic units or structures (Schmid 2010, 117; cf. 2000). This assumption may not always hold, of course, but the assumption seems important for a language like Biblical Hebrew where we do not have access to the lexicon apart from the extant text. Roughly speaking, if a verb occurs more frequently with a directional adverbial than with a locational adverbial, the verb would be assumed to be dynamic rather than stative. In fact, as will be unfolded below, the statistical computation is more sophisticated than merely counting frequencies. Nonetheless, frequency matters, and it is the most controlled way for analyzing verbal aspect.[149] In some respects, the proposed method

[149] It is a common misunderstanding, however, that quantitative, corpus-linguistic methods are not subjective. Quite the opposite, they are indeed subjective because the annotation of the corpus, the choice of features to explore, the size of the

aligns with Dyk's valence approach in that it looks for patterns and emphasizes the role of frequency (cf. §4.3.1.2). On the other hand, I will not argue that a Biblical Hebrew lexicon can be created on the basis of strict, generative rules. Rather, it is my contention that a quantitative analysis of verbs and their modifiers can serve as a falsifiable basis for understanding the most primitive notions of internal aspect, in particular the dynamicity opposition. In this respect, a quantitative analysis is only the first step to creating a Biblical Hebrew lexicon. Understood this way, the primitive semantic notions derived form a quantitative analysis can inform the RRG logical structures and thereby justify a full-fledged verbal analysis within the framework of RRG.

The analysis proposed is a so-called collostructional analysis of predicates and their spatial modifiers. The collostructional analysis was developed by Anatol Stefanowitsch and Stefan Th. Gries (Stefanowitsch and Gries 2003; cf. Gries and Stefanowitsch 2004; Stefanowitsch and Gries 2005) within the framework of Construction Grammar.[150] The constructions to be considered in this study are the collocation of verbal predicates in *Qal* and complements headed by one of five different prepositions (אֶל 'to', לְ 'to', בְּ 'in', מִן 'from', and עַל 'upon'), as well as complements containing the so-called directional ה- 'h'. Three examples of these constructions are given in (4.9):

(4.9) a. וַיֹּאמֶר אֶל־הָאִשָּׁה
wa- yyō- Ø- ʾmer- Ø ʾel= hā- ʾišš- āʰ
CLM- NARR- QA- say- 3.M.SG P= ART- woman- F.SG.AB
'And he <u>said</u> **to** (ʾel = אֶל) the woman' (Gen 3:1).

b. בְּתִרְצָה מָלַךְ שֵׁשׁ־שָׁנִים
bᵊ- tirṣāʰ- Ø Ø- Ø- mālax- Ø šēš- Ø= šān- îm
P- Tirzah- SG.AB PERF- QA- reign- 3.M.SG six- SG.CS= year- M.PL.AB
'He <u>reigned</u> **in** (bᵊ = בְּ) Tirzah for six years' (1 Kgs 16:23).

c. וַיֵּרֶד אַבְרָם מִצְרַיְמָה
wa- yyē- Ø- red- Ø ʾavrām miṣraym- āʰ
CLM- NARR- QA- go.down- 3.M.SG Abram Egypt- UVF
'And Abram <u>went down</u> [**to**] Egypt (āʰ = directional ה- 'h'*)*' (Gen 12:10).

corpus, and the statistical algorithms to employ are all subjective choices. Nevertheless, as Glynn argues, "It is not objectivity that quantitative analysis offers us, but a better and more varied way of verifying the results. Seen from this perspective, quantitative methods are all the more important for subjective semantic analysis" (2010, 242).

[150] Construction Grammar is characterized by the assumption that all levels of grammatical description – not only the lexicon as traditionally stated – are symbolic units of form and meaning. For a recent introduction to Construction Grammar, cf. Hoffmann and Trousdale (2013; cf. Goldberg 1995; Fillmore 1988).

In what follows, the method, corpus, and results will be discussed in turn.

4.3.2.1 Method

A collostructional analysis is similar to traditional collocational analyses to the extent that it measures the association strength of the word under investigation to another word in the constructional context. However, traditional methods do not take the syntactic structure into account but simply measure the association strength between two items within a certain distributional distance. A collostructional approach, on the other hand, takes syntax into account and looks specifically at the relationship between the target word and another word in a particular syntactic position (Stefanowitsch and Gries 2005, 5). Thus, a collostructional method enhances the likelihood of capturing significant relationships within a particular, well-defined construction. Importantly, the analysis is not based on the raw frequencies of collexemes. On the contrary, the analysis applies distributional statistics in order to compare the frequency of a target word and a construction to the frequency of the word in other constructions and the frequency of the construction with other words. In practice, the researcher creates matrices containing the cross-tabulations of the two variables under consideration. Table 4.2 below shows the contingency table (Stefanowitsch and Gries 2005, 6–7):

Table 4.2 Contingency table of collostructions

	Construction X	**¬X (all other constructions)**
Word L	1. freq. (L + X) *All attestations of the word in the given construction*	3. freq. (L + ¬X) *All attestations of the word outside the given construction*
¬L (all other words)	2. freq. (¬L + X) *All other words in the given construction*	4. freq. (¬L + ¬X) *All other words and all other constructions in the corpus*

As an example, the predicate אמר ‘say’ and the prepositional complement phrase headed by אֶל ‘to’ are considered (cf. 4.9a). The frequencies are extracted from the corpus (Genesis–Kings; cf. below). As can be seen in Table 4.3, there are 928 constructions in the corpus where someone talks to someone. Although אֶל is a frequent preposition, only 829 attestations are left for other verbs. Apart from this information, it is calculated how many times the verb occurs with other complement phrases (385), and finally, the frequency of all other complements and all other verbs (38,440).

Table 4.3 Contingency table of אמר ‘say’ and אֶל ‘to’

	אֶל ‘to’	**¬ אֶל ‘to’ (all other complement phrases)**	**Row totals**
אמר ‘say’	928	385	1,313
¬ אמר ‘say’ (all other verbs)	829	38,440	39,269
Column totals	1,757	38,825	40,582

On the basis of contingency tables like the one illustrated, two important statistical measures can be computed: Attraction and Reliance. The former reflects the degree by which the construction attracts the target word; the latter reflects the degree by which the lexeme depends, or relies, on the construction (Schmid 2000, 54–57). In this concrete example we would expect a high attraction score as well as a high reliance because the construction occurs most frequently with this particular predicate, and because the predicate occurs most frequently in this particular construction. Thus, association strength is bidirectional, because the strength can be measured as how frequent the target word appears in a certain construction, and how frequent the construction attracts the target word. It is common, however, to use the Fisher-Yates Exact test which provides a uniform measure of association strength, that is, the lower the value, the stronger the association (Stefanowitsch and Gries 2003, 218). Another measure is ΔP (Ellis 2006; Ellis and Ferreira-Junior 2009), which is preferred here because it maintains the bidirectional association strength and includes the corpus size (in contrast to Attraction and Reliance).[151] However, as Hans-Jörg Schmid and Helmut Küchenhoff (2013) have demonstrated, each measure has its own advantages and drawbacks, so the use of multiple scores enhances the robustness of the analysis.

4.3.2.2 Corpus

The corpus selected for the analysis is the Classic Biblical Hebrew (CBH) corpus, i.e., the books of Genesis–Kings.[152] The corpus consists of 40,582 clauses, 6,403 of which have a predicate, a single

[151] ΔP ‘delta P’ is a bidirectional, statistical measure of the probability that a given construction attracts a lexeme (ΔP Attraction) and that a given lexeme relies on a construction (ΔP Reliance). Thus, in contrast to Fisher-Yates Exact, which gives one measure of association, ΔP provides two measures: seen from the construction and from the lexeme, respectively. Both measures are important because they are not necessarily reciprocal, that is, a lexeme may rely heavily on a construction, but the association may not be mutual since the construction may attract other lexemes more heavily. For a technical description, cf. Ellis (2006, 11). For an evaluation of statistical measures commonly applied in collostruction analysis, cf. Schmid and Küchenhoff (2013).

[152] Although it is common to distinguish the Hebrew of CBH and LBH (cf. n. 138), “the Hebrew Bible exhibits a remarkable degree of linguistic uniformity” (Hornkohl 2013). Nevertheless, the two corpora exhibit morphological, syntactical,

complement phrase and no object. The great majority of the complement phrases are prepositional phrases (5,882)[153] which can be further subdivided into types according to their prepositional head, as illustrated in Figure 4.3.

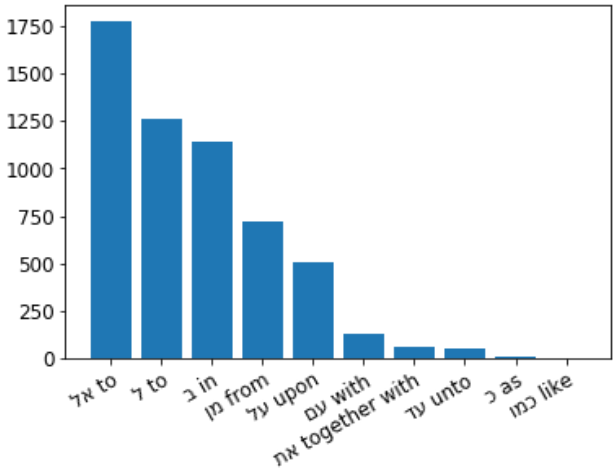

Figure 4.3 Frequency of prepositions heading complement phrases

The five most frequent prepositions (אֶל ‘to’, לְ ‘to’, בְּ ‘in’, מִן ‘from’, and עַל ‘upon’) have primarily spatial senses. Each of them, however, can be used in a diversity of ways. בְּ ‘in’, for instance, is deployed in the very first sentence of the Hebrew Bible as a temporal modifier (Gen 1:1). The five prepositions each form one distinct construction type in this analysis. Another, less frequent, type is the complement with a directional ה- ‘h’. The directional ה- is an adverbial suffix with a distinct directional meaning, roughly equivalent to the English *-ward* (e.g., “upward”) (Waltke and O’Connor 1990, §10.5). This directional ה- is the sixth complement type for this collostructional analysis. An overview of the constructions, their frequencies in the corpus, syntax, and primary functions are given in Table 4.4. As for the predicates, only predicates attested at least ten times with these constructions were included.[154] Accordingly, 62 verbs were included with 4,933 attestations.

and lexical deviations (cf. examples and discussion in Hornkohl 2013). For that reason, it is appropriate to limit the research to CBH in which Leviticus is contained.

[153] The remaining complement phrases are adverbial phrases (269), nominal phrases (126), proper noun phrases (119), and interrogative phrases (7). Due to low frequency, these phrases are not included.

[154] A minimal frequency of ten attestations has been chosen in order to avoid the statistical inaccuracies demonstrated for collocations of low-frequency words (Evert 2004, esp. chapter 4). According to Evert, “Theoretical considerations suggest a minimal threshold of f[requency] ≥ 3 or f[requency] ≥ 5, but higher thresholds often lead to even better results in practice” (2008, 1242).

Table 4.4 Overview of constructions considered for the collostructional analysis of verbs in CBH

Preposition	Frequency	Syntax	Primary function(s)
לְ ‘to’	1,124	verb + complement phrase headed by preposition	directional, benefactor, possessive
אֶל ‘to’	1,717	-	directional, addressee
בְּ ‘in’	907	-	locational, instrumental, temporal
מִן‘from’	594	-	source, comparative
עַל ‘upon’	367	-	locational, specification
directional ה- ‘h’	224	verb + complement phrase including a word with directional ה- ‘h’	directional

One might object to this research design that the constructions under consideration need not be directional or locational; hence, how can we be sure that the outcome of the analysis corresponds to an opposition of activities and states? As a matter of fact, the prepositions considered are used in a multiplicity of ways in the Hebrew Bible, including instrumental, temporal, adversative, and benefactor senses, among others. Even if the spatial sense is the primary sense in terms of cognition and frequency, the analysis most likely plots other senses as well. It might be tempting to manually annotate the constructions beforehand to sort spatial from non-spatial senses. However, this procedure would be hazardous for at least two reasons. Firstly, semantic annotations are commonly acknowledged as the most difficult type of annotation because they involve a great deal of subjective interpretation. For VerbNet, for instance, it was found that expert annotators agreed on the sense of verb less than 80% of the time (Rayson and Stevensen 2008, 565; cf. Fellbaum, Grabowski, and Landes 1998).[155] If this is true for modern languages, it is even more so for ancient languages where we cannot rely on native speakers. Secondly, and importantly in the context of this study, predicates and complements are not independent. Consequently, the complement cannot be ascribed a semantic role (goal, benefactor, location, source, etc.) independently from inquiring the meaning of the predicate. In other words, since semantic roles reflect the interpretation of the predicate, complement annotations would compromise a quantitative analysis because the verbs would (unconsciously) have been interpreted

[155] More specifically, the creators of VerbNet found that the percentage of agreement was higher for nouns than for verbs and adverbs (Fellbaum, Grabowski, and Landes 1998, 222–25). Further, the percentage of agreement was significantly lower for polysemous words, especially adverbs.

before the analysis itself. The method proposed here is therefore simply a pattern recognition analysis and does not directly address the dynamicity opposition. However, because we investigate several constructions, we can observe patterns of predicates that behave similarly in this particular aspect.

4.3.2.3 Results

Extracts of the results of the collostructional analysis are given in the tables below. A variety of statistical measures are provided, most importantly ΔP Attraction and ΔP Reliance which are the preferred measures here.[156] The tables also provide the frequencies of the words in the constructional patterns as well as in the entire corpus as defined above.

Table 4.5 Top ten verbs relying on the אֶל ‘to’ construction (ranked according to ΔP Reliance)

	freq. in pattern	**freq. in corpus**	**Fisher-Yates Exact**	**Attraction (%)**	**Reliance (%)**	**ΔP Attraction**	**ΔP Reliance**	**Odds Ratio**
צעק ‘cry’	17	17	6.126e-24	0.97	100.00	0.0097	0.9571	inf
זעק ‘cry’	11	12	1.121e-14	0.63	91.67	0.0062	0.8736	244.60
נגשׁ ‘approach’	18	20	4.595e-23	1.02	90.00	0.0102	0.8571	200.92
שׁלח ‘send’	36	45	3.503e-41	2.05	80.00	0.0203	0.7575	90.22
פנה ‘turn’	17	22	1.312e-19	0.97	77.27	0.0095	0.7298	75.86
קרב ‘approach’	24	32	1.217e-26	1.37	75.00	0.0135	0.7073	67.20
אמר ‘say’	928	1313	0.000e+00	52.82	70.68	0.5183	0.6857	111.77
בוא ‘come’	269	476	8.091e-240	15.31	56.51	0.1478	0.5280	33.73
שׁוב ‘return’	62	140	1.442e-46	3.53	44.29	0.0333	0.4009	18.17
שׁמע ‘hear’	56	142	7.820e-39	3.19	39.44	0.0297	0.3523	14.83

Table 4.5 shows the top ten verbs relying on the אֶל ‘to’ construction according to the ΔP Reliance score. The verbs are dominated by motion verbs, but three speech verbs appear as well (צרק ‘cry’, זרק ‘cry’, and אמר ‘say’). These speech verbs often attract אֶל ‘to’ in order to express the addressee of the speech. The verb שׁמע ‘hear’ also appears in this table, probably because the verb does not always simply refer to simple perception but also attentive listening signaled by אֶל.

The picture is different for the בְּ ‘in’ construction (Table 4.6). Quite different verbs rely on this construction, including seemingly dynamic verbs, such as תקע ‘blow’, רחץ ‘wash’, פשׂה ‘spread’ (?), דבק ‘cling/cleave to’, פגע ‘meet’, and נגע ‘touch’. Two stative verbs, רעע ‘be evil’ and ישׁב ‘sit’, also

[156] For explanation and evaluation of the other statistical measures, Fisher-Yates Exact and Odds Ratio, cf. Schmid and Küchenhoff (2013).

rely significantly on this preposition. Unlike the אֶל construction on which predominantly dynamic verbs relied, one cannot easily find a pattern of verbs relying on the בְּ construction.

Table 4.6 Top ten verbs relying on the בְּ 'in' construction (ranked according to ΔP Reliance)

	freq. in pattern	**freq. in corpus**	**Fisher-Yates Exact**	**Attraction (%)**	**Reliance (%)**	**ΔP Attraction**	**ΔP Reliance**	**Odds Ratio**
תקע 'blow'	27	27	7.335e-43	2.39	100.00	0.0239	0.9728	inf
רחץ 'wash'	16	16	1.161e-25	1.42	100.00	0.0142	0.9726	inf
פשׂה 'spread'	12	12	2.030e-19	1.06	100.00	0.0106	0.9725	inf
חפץ 'desire'	10	10	2.671e-16	0.89	100.00	0.0089	0.9724	inf
דבק 'cling/ cleave to'	17	18	5.583e-26	1.51	94.44	0.0150	0.9170	603.13
פגע 'meet'	24	26	1.121e-35	2.13	92.31	0.0212	0.8958	428.43
מׂשל 'rule'	12	13	2.572e-18	1.06	92.31	0.0106	0.8955	423.84
נגע 'touch'	32	35	6.509e-47	2.83	91.43	0.0283	0.8872	383.59
רעע 'be evil'	15	17	5.456e-22	1.33	88.24	0.0132	0.8549	265.60
יׂשב 'sit'	129	172	3.123e-164	11.43	75.00	0.1132	0.7253	118.23

Table 4.7 Top ten verbs relying on the directional ה- 'h' construction (ranked according to ΔP Reliance)

	freq. in pattern	**freq. in corpus**	**Fisher-Yates Exact**	**Attraction (%)**	**Reliance (%)**	**ΔP Attraction**	**ΔP Reliance**	**Odds Ratio**
נוס 'flee'	18	49	1.829e-28	7.83	36.73	0.0775	0.3621	110.43
ירד 'descend'	17	84	6.437e-22	7.39	20.24	0.0723	0.1971	47.99
שׂכב 'lie down'	3	18	1.377e-04	1.30	16.67	0.0127	0.1611	35.54
נפל 'fall'	12	75	1.569e-14	5.22	16.00	0.0506	0.1546	35.20
בוא 'come'	70	476	1.006e-78	30.43	14.71	0.2943	0.1431	43.05
עבר 'pass'	12	82	4.807e-14	5.22	14.63	0.0504	0.1410	31.68
הלך 'walk'	31	242	1.301e-32	13.48	12.81	0.1296	0.1232	29.64
עלה 'ascend'	17	142	7.599e-18	7.39	11.97	0.0708	0.1145	25.68
שׂוב 'return'	14	140	8.206e-14	6.09	10.00	0.0577	0.0947	20.69
פנה 'turn'	2	22	6.856e-03	0.87	9.09	0.0082	0.0853	17.69

In Table 4.7, the picture is consistent. All top ten verbs relying on the directional ה- 'h' construction are motion verbs, consistent with the common understanding of the sense of this morpheme.

On their own, the six constructions reveal the attraction and reliance of verbs and constructions. If, however, the six reliance scores for each verb are seen as six variables, statistical methods can be

applied to measure the correspondences of these variables and plot the constructions and verbs according to similarity. Principal Component Analysis (PCA) is one such method.[157] PCA was developed as a method to explore multiple independent quantitative variables and reduce the variation, or spread, of these variables to the smallest possible number of dimensions, called 'principal components'. In short, the purpose of the method is to trade a little accuracy for simplicity. The method has been widely used for a diversity of data types, including linguistic data. In this case, the 62 verbs and the six constructions form a dataset of 62 rows and six columns. Using PCA, a two-dimensional map captures 64.05% of the variation in this dataset.[158] The 1st component accounts for the largest possible variation, and the 2nd for the second-largest variation. The resulting two-dimensional map projects the data according to their contributions to the component seen from the perspective of the center of the plot. Accordingly, data points near the extremes of the map contribute the most to the component.

The first two components are plotted in Figure 4.4 below. The first component accounts for 38.5% of the variation and captures the variation caused by the constructions בְּ 'in' on the right side, and אֶל 'to' and מִן 'from' on the left side. Significantly, all prepositions associated with direction, source, or goal are projected on the left side, while the preposition associated more with stative location is projected on the right side. The projection of individual verbs supports the notion of this opposition. Except perhaps for קצף 'be angry', חזק 'be strong', ירא 'fear', and צרר 'wrap/be narrow', all verbs on the left side of the plot are seemingly dynamic verbs. The lower left side of the plot is dominated by motion verbs. The constructions directional ה- 'h' and עַל 'upon' are situated close to the center of the map, which is to be expected since the frequencies, and, accordingly, the contributions of these variables are smaller than the other constructions.

As for the right side of the map, the picture is mixed. As would be expected, given the frequent locative use of בְּ 'in', prototypical stative verbs are found in this side of the plot, including ישב 'sit', שׁכן 'dwell', חנה 'encamp', שׁכב 'lie down', רעע 'be evil', יטב 'be good', and ראה 'see'. Curiously, a number of verbs do not easily fit into this pattern of stative verbs; in fact, most of the verbs clustering near בְּ in the plot do not. First, פשׂה 'spread' is only attested with בְּ 'in' among the constructions under consideration. It occurs only in Lev 13 and 14, and the complement headed by בְּ signals the location of where a (skin) disease spreads.[159] Thus, the verb can easily be construed as an activity, and the preposition merely designates the location of that activity. The same is true of רחץ 'wash' where the preposition בְּ marks the location of bathing. That רחץ should be construed as an activity is supported

[157] For introduction to PCA, cf. Levshina (2015, 351–66) and Jolliffe (2002).

[158] A three-dimensional map captures 85.15% of the variation.

[159] Cf. Lev 13:5, 6, 7, 8, 34, 35, 36, 51, 53; 14:39, 44, 48.

by the frequentative temporal phrase “seven times” in 2 Kgs 5:10.[160] Another predicate, דבק ‘cling/cleave to’ occurs frequently with בְּ to mark the object or place to which someone or something clings.[161]

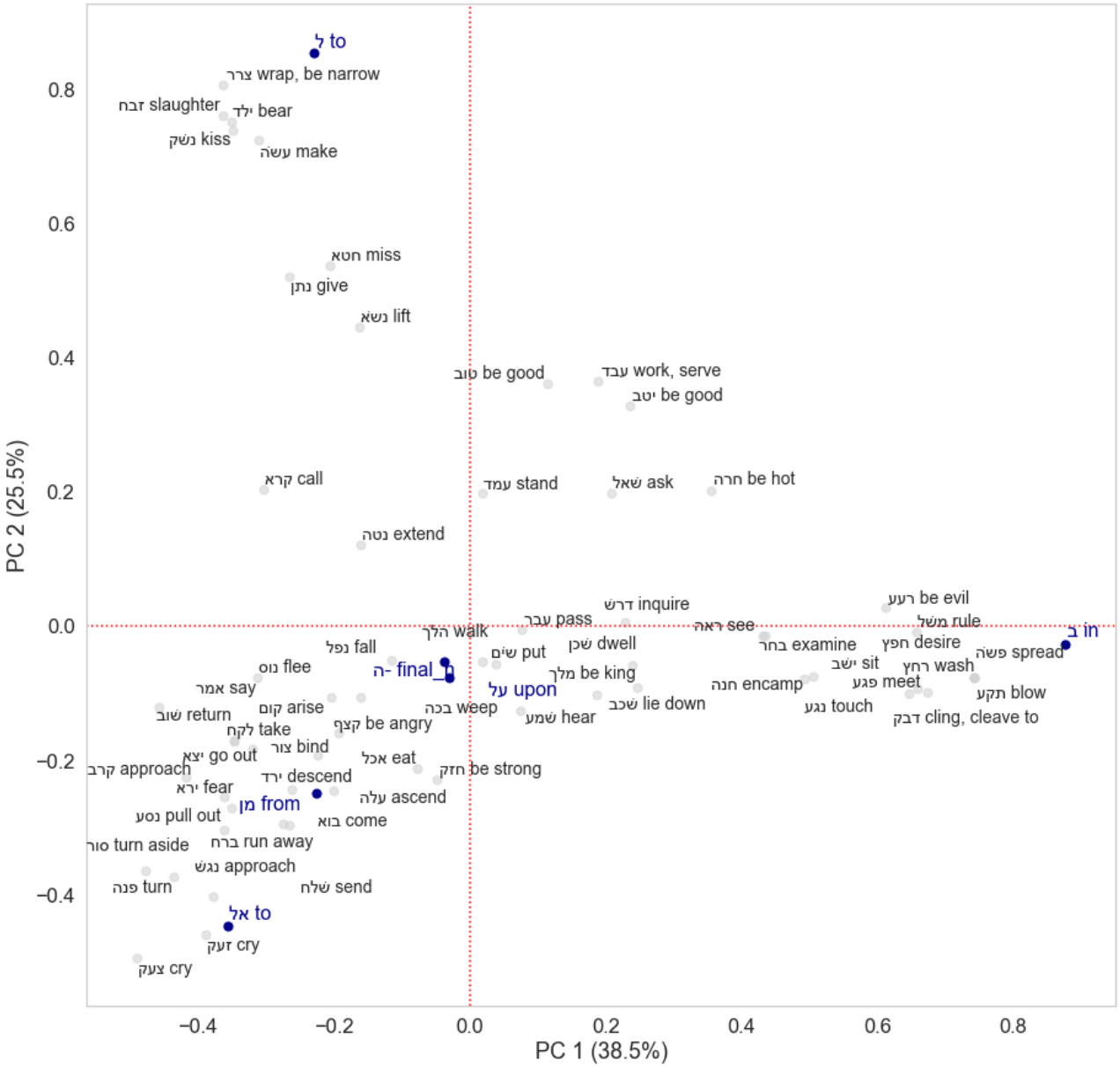

Figure 4.4 PCA two-dimensional map of verbs and constructions according to ΔP Reliance scores

[160] “Go, and bathe (רחץ ‘wash’) seven times in the Jordan” (2 Kgs 5:10). רחץ occurs frequently with בְּ, always referring to the location of bathing, cf. Lev 14:8; 15:5, 6, 7, 8, 10, 11, 18, 21, 22, 27; 17:15; Num 19:19; Deut 23:12; 2 Kgs 5:12.

[161] Cf. Gen 2:24; 34:3; Num 36:7, 9; Deut 10:20; 11:22; 13:5, 18; 28:60; 30:20; Josh 22:5; 23:8, 12; 2 Sam 20:2;1 Kgs 11:2; 2 Kgs 5:27, 18:6.

Similarly, בְּ is employed with נגע ‘touch’ to mark the object or place to be touched.[162] Finally, to conclude these examples, תקע ‘blow’ usually denotes blowing a trumpet or horn, and בְּ marks the object to be blown.[163] In sum, these predicates employ the preposition בְּ ‘in’ for quite different reasons, and the preposition does not by itself indicate a stative interpretation of the verb.

Thus, the first component exhibits an asymmetry in that presumably dynamic verbs occur across the range of the component, while stative verbs are almost restricted to the right side of the plot. These observations demonstrate the usefulness of a quantitative approach. While it may still hold true that stative verbs can become dynamic given the right pragmatic context, the observations so far demonstrate that dynamic verbs are more likely to occur with certain prepositions.

As for the second component, there is an interesting contrast between the constructions אֶל ‘to’ and לְ ‘to’. Apparently, the opposition between those two constructions is not one of activity but between directionality on the one hand and benefaction/malefaction on the other hand. A closer inspection of the verbs clustering around לְ ‘to’ supports this interpretation, as illustrated by the prototypical examples in (4.10). Other examples with this interpretation are given in footnotes:

(4.10) a. It was a great danger (וַתֵּצֶר) for David (1 Sam 30:6).[164]
b. Let us sacrifice (וְנִזְבְּחָה) to YHWH, our God (Exod 3:18).[165]
c. Sarai, Abram’s wife, did not bear (יָלְדָה) [any children] for him (Gen 16:1).[166]
d. The king kissed (וַיִּשַּׁק) Absalom (2 Sam 14:33).[167]
e. … and he knew what his youngest son had done (עָשָׂה) against him (Gen 9:24).[168]

The verb צרר ‘wrap/be narrow’ consistently means ‘be in trouble/danger’ in this pattern (cf. 4.10a). The sentence is difficult to translate literarily into English, but the person in trouble or danger is always marked by the preposition לְ, which suggests a malefactive interpretation. The constructions

[162] Cf. Gen 3:3; 32:26, 33; Exod 19:12, 13; Lev 5:2, 3; 6:11, 20; 7:19, 21; 11:8; 12:4; 15:5, 11, 12; 22:5, 6; Num 16:26; 19:16, 22; Deut 14:8; Josh 9:19; Judg 6:21; 1 Sam 6:9; 10:26; 2 Sam 5:8 (?).

[163] Cf. Num 10:3, 4, 8, 10; Josh 6:4, 8, 9, 13 (×2), 16, 20; Judg 3:27; 6:34; 7:18 (×2), 19, 20; 16:14; 1 Sam 13:3; 2 Sam 2:28; 18:16; 20:1, 22; 1 Kgs 1:34, 39; 2 Kgs 9:13. There is only one exception, namely Gen 31:25 where the verb should be translated ‘pitch’ (a tent), because the object is inferred from the context.

[164] Cf. Gen 32:8; Judg 2:15; 10:9; 11:7; 1 Sam 13:6; 28:15; 2 Sam 1:26; 13:2; 24:14.

[165] Cf. Exod 5:3, 8, 17; 8:4, 21, 22, 23, 24, 25; 32:8; 34:15; Deut 16:2; 32:17; Judg 2:5; 1 Sam 1:3; 15:15, 21; 16:2, 5; 1 Kgs 8:63; 2 Kgs 17:35, 36.

[166] Cf. Gen 6:4; 17:21; 21:3, 9; 24:24, 47; 25:12; 30:1; 34:1; 41:50; 46:15, 20; 2 Sam 12:15; 21:8 (×2).

[167] Cf. Gen 27:26, 27; 29:11; 48:10; 50:1; Exod 4:27; 18:7; 2 Sam 15:5; 19:40; 20:9; 1 Kgs 19:18, 20.

[168] There are 166 attestations of this collostruction; cf. e.g., Gen 16:6; 19:8; 21:1; 27:45; 30:30; 39:19; 42:25; 50:12; Exod 5:15.

exemplified in (4.10b) and (4.10c) are always benefactive, that is, the participant marked by לְ benefits from the event (unless, of course, the sentence is negated, as in 4.10c). נשׁק ‘kiss’ seems to be an exception to the pattern established so far. One may construe the object marked by the preposition לְ as a benefactor, but perhaps more precisely as a theme. Finally, עשׂה ’make’ almost always uses לְ to mark the benefactor or malefactor of the event, as in (4.10e).[169] In sum, perhaps apart from נשׁק ‘kiss’, the five verbs forming a cluster around לְ mark benefactive/malefactive with this preposition.

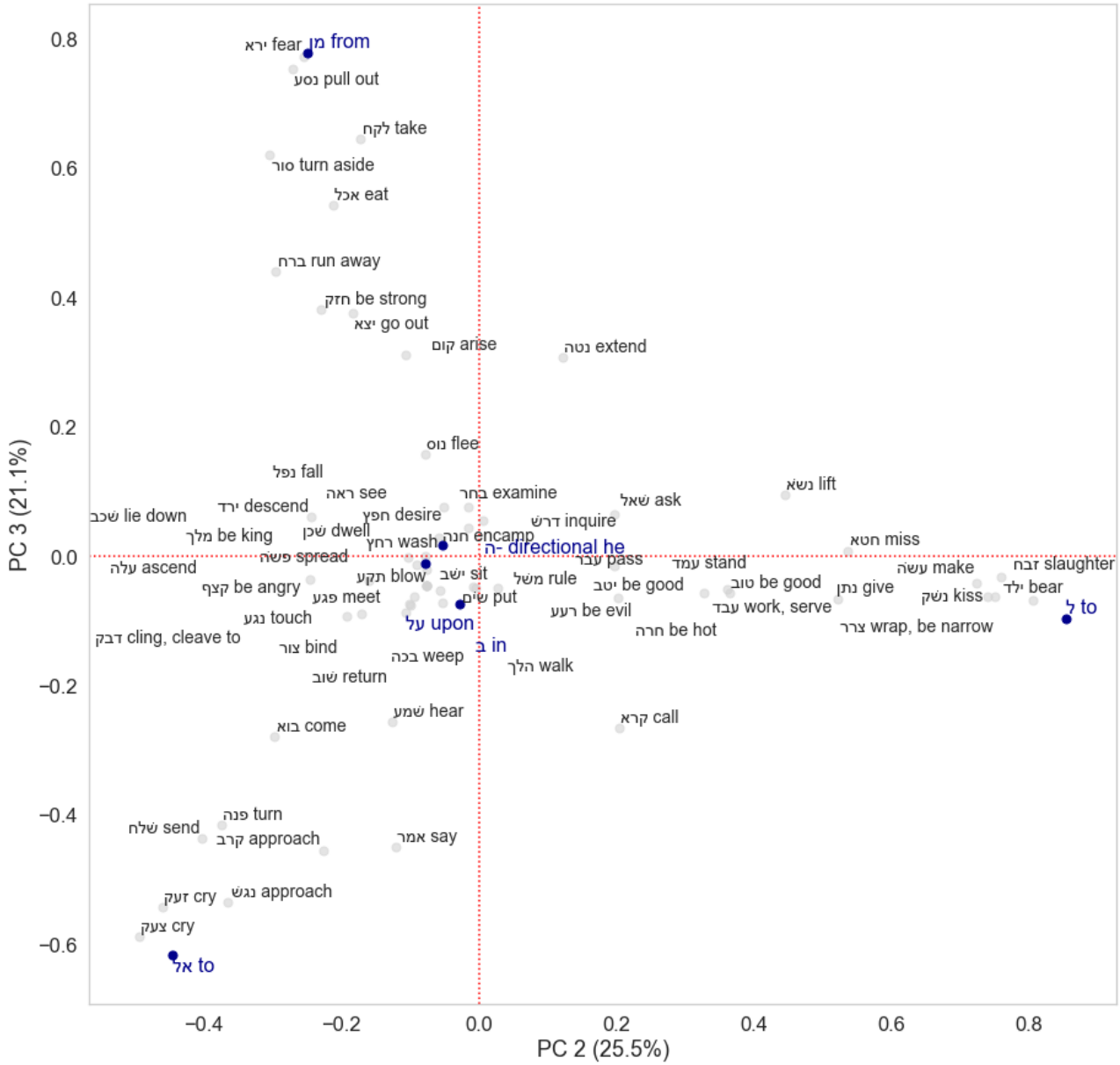

Figure 4.5 Second and third component of the PCA

[169] This observation corresponds with one of Dyk, Glanz, and Oosting (2014, 13–14) where לְ is said to mark either location or the argument affected by the event. Their observations, however, were made for עשׂה ‘make’ in ditransitive frames (with two objects).

The third dimension accounts for 21.1% of the variation and contrasts source (מִן ‘from’) and goal (אֶל ‘to’) as visualized in Figure 4.5. Verbs easily associated with a point of departure are found in the top left corner of the map, including נסע ‘pull out’, סור ‘turn aside’ (or rather, ‘depart’), ברח ‘run away’, יצא ‘go out’, נוס ‘flee’, נפל ‘fall’, and ירד ‘descend’. The verb לקח ‘take’ marks the source from where something is taken with מִן (4.11a), while ירא ‘fear’ is exceptional in this context, because the theme to be feared is marked by this preposition (4.11b).

(4.11) a. And you shall take (וְלָקַחְתָּ) of the blood, that is on the altar… (Exod 29:21).[170]

b. And you shall fear (וְיָרֵאתָ) your God (Lev 19:14).[171]

In sum, the three most important components explored here correspond largely to lexical senses, although one cannot draw a thick line between states and activities. Importantly, however, the 1st component shows a distinction between directional/goal senses on the one hand and non-directional/non-goal on the other hand. The 2nd component distinguishes direction and benefaction/malefaction, while the 3rd component differentiates source and direction. Given the choice of adverbials to consider, it is not surprising that the directional sense dominates the picture, but it is instructive to observe how this sense is distinguished from other lexical senses.

With respect to Lev 17–26, 31 verbs from the collostructional analysis are attested in this text. Not surprisingly, a number of these are motion verbs: עלה ‘ascend’, בוא ‘come’, שׁוב ‘return’, יצא ‘go out’, קרב ‘approach’, נגשׁ ‘approach’, נוס ‘flee’, קום ‘arise’. These verbs all rely on directional adverbials and are therefore found in the directional half of the PCA model (the left half in Figure 4.4). Other presumably dynamic verbs are likewise found in this area of the graph (עשׂה ‘make, אכל ‘eat’, אמר ‘say’, נשׂא ‘lift’, קרא ‘call’). A handful of presumably stative verbs are found in the right side of the plot as expected (אמד ‘stand’, שׁכב ‘lie down’, שׁמע ‘hear’, ישׁב ‘sit’, ראה ‘see’). A number of verbs diverge from the pattern. Most surprisingly, הלך ‘walk’ and עבר ‘pass’ are situated on the right side of the plot, albeit near the center. As a motion verb, הלך would be expected to be associated more strongly with directional adverbials. On the other hand, the preposition בְּ is commonly used to denote the location of the event, sometimes figuratively as in (4.12a).

(4.12) a. And [if] you do not walk in (בְּ) my instructions (Lev 18:3).

b. I will put my face against (בְּ) that man and against (בְּ) his clan (Lev 20:5).

[170] There are 50 attestations of this collostruction; cf. e.g., Gen 2:22; 3:6; 8:20; 14:23; 23:13; 28:11; 43:11; 48:22.

[171] Cf. Exod 9:30; Lev 19:32; 25:17, 36, 43; Deut 1:29; 2:4; 5:5; 7:18; 20:1; 28:10; Josh 10:8; 11:6; 1 Sam 7:7; 18:12, 29; 21:13; 28:20; 1 Kgs 1:50; 3:28; 2 Kgs 1:15; 19:6; 25:24, 26.

Another verb is שׂים ‘put’, a transfer verb often denoting the translocation of an entity. Although expressing an activity, the verb is situated on the right side of the plot among presumably stative verbs. The reason is that the preposition בְּ designates the location where the entity is put or, as an adversative, the entity against which something is put (cf. 4.12b). שׂים illustrates a more general complication for the methodology applied here. As a transfer verb, שׂים involves a dynamic event and a static endpoint and cannot therefore be considered *either* an activity *or* a state. Thus, the methodology applied here works best with simple verbs that express either a dynamic event or a static situation. For complex events, including transfer verbs, a distributional analysis must at least be accompanied by a more logical interpretation of the verb to conceptualize the internal composition of the semantics of the verb.[172]

4.3.3 Summary

To conclude, dynamicity is considered a universal aspect of language. In this part of the chapter, it was discussed to what extent Biblical Hebrew morphology and syntax correlate with lexical aspect. One recurrent drawback for a number of approaches is the apparent presupposition of a lexicon. If, for instance, a stative verb is said to be rendered dynamic by pragmatic implicature (e.g., by means of the presence of a certain adverbial), some prior knowledge of the lexicon is assumed. While we do have considerable knowledge of a number of highly frequent verbs, we cannot suppose such a lexical knowledge for all verbs in the corpus. Therefore, it was proposed to take a step backwards and consider how coarse semantic notions can be gleaned from the corpus in the first place. Accordingly, a collostructional analysis was carried out on 62 verbs and six constructions with assumed spatial notions (directional or locational). A Principal Component Analysis of the collostructions yielded significant distinctions between directionality and non-directionality (1st component), directionality and benefaction/malefaction (2nd component), and goal and source (3rd component). The analysis provided modest results with respect to Lev 17–26. Most verbs of the text were not captured by the collostructional analysis because of the obvious bend of the model towards directionality. More generally, the challenge remains that many Hebrew verbs occur infrequently and rarely with adverbial modifiers. Thus, as for other approaches, this methodology applies most effectively to frequently attested verbs. On the other hand, most verbs in H targeted by the analysis conformed to the distinction between directionality and non-directionality.

[172] Other surprising verbs have already been discussed, including ירא ‘fear’, נגע ‘touch’, and רחץ ‘wash’, also attested in Lev 17–26.

To yield more semantic distinctions, more collostructions could – and should – certainly be considered. Temporal adverbials, for instance, could contribute important temporal distinctions in order to support or falsify the observations made in this analysis.

4.4 Causation

Like dynamicity, causation is one of the most important semantic properties with respect to agency. In essence, causation concerns the interference of two entities, one entity *causing* another entity towards rest or activity (Talmy 2000). Traditionally, 'cause' was seen as an irreducible, atomic primitive as illustrated in James D. McCawley's (1968) now classic decomposition of 'kill' into [CAUSE [BECOME [NOT [ALIVE]]]]. A similar understanding of cause is found in Van Valin who offers the following explanation of causative verbs:

> Causative verbs have a complex structure consisting of a predicate indicating the causing action or event, usually an activity predicate, linked to a predicate indicating the resulting state of affairs by an operator-connective CAUSE, e.g. [**do′** …] CAUSE [BECOME **pred′** …]. (Van Valin 2005, 42)

However, Van Valin also admitted that this notion of causation was "a gross oversimplification" because causation involves such various connections as 'direct coercive' (e.g., "Pam made Sally go"), 'indirect non-coercive' (e.g., "Pam had Sally go"), and 'permissive' (e.g., "Pam let Sally go") (2005, 42 n. 5). Consequently, in later works, linguists working within the framework of RRG have reconceptualized causation and added important nuances to this complex matter (in particular Nolan, Rawoens, and Diedrichsen 2015). These nuances are especially important when analyzing the role and agency of linguistic participants. The classical, atomic notion of causation would imply treating all types of causatives as simply involving an effector (Van Valin 2005, 58) even though the degree of this participant's agency can be perceived of as being quite different depending on whether the participant is forcing another entity towards a particular state of affairs, or whether the participant is simply permitting the other entity without being further involved. In short, a fine-grained analysis of participant roles requires fine distinctions in causative types.

There are three formal types of causal realizations within the sentence. These are lexical, morphological, and syntactic causatives (Kulikov 2001, 886–87).[173] Lexical causatives are causatives which cannot be derived morphologically from non-causative counterparts. One example is the pair

[173] The syntactic causative is sometimes called the 'periphrastic causative', e.g., Castaldi (2013) or 'analytic causative'. Kulikov (2001, 887) adds 'labile verbs' to lexical causatives as a subcategory. Labile verbs are causatives that are indistinguishable from their non-causative counterparts, such as 'open' and 'move'.

'kill' – 'die', expressing causation and non-causation, respectively, but without any morphological connection. Biblical Hebrew also contains lexical causatives, such as הרג QA 'kill'. A morphological causative is formally derivable from its non-causative counterpart. The BH prototypical morphological causative is the *Hiphil* stem formation which is frequently used to denote the causation of an undergoer to perform an event. Less prototypically, the *Piel* stem often expresses a factitive event, that is, an external causer causes an entity to enter a new a state (see further discussion below). Finally, the syntactic causative is defined as a causative construction formed by two verbs, hence the frequent label 'periphrastic causative'. Here, the causative morpheme is a free form, in English 'cause', 'make', 'let', in German 'lassen', or in French 'faire'. This causative type is absent from Biblical Hebrew.

The aim of this chapter is to explore the Biblical Hebrew causatives in light of recent, general treatments of causation, in particular Talmy's (2000) concept of 'force dynamics', Van Valin's Role and Reference Grammar (2005; cf. Van Valin and LaPolla 1997), and Næss' (2007) theory of 'prototypical transitivity', the three of which offer means by which causatives can be further distinguished. More concretely, this section of the chapter will include 1) a general introduction to causation; 2) classification and comparison of the BH verbal stems *Hiphil* and *Piel* in terms of causation; and 3) a discussion of the lexical causatives appearing in Lev 17–26.

4.4.1 Causation and force dynamics

Causation has been researched and debated intensively, and it is not the aim of this chapter to summarize this long history of research.[174] As Suzanne Kemmer and Arie Verhagen note, apparently, linguists have come to see causation not only as an interesting, complex issue on its own but as "fundamental to an understanding of clause structure as a whole" (1994, 116). The phenomenon of causation appears at almost all levels of grammar: from grammatical affixes, to lexemes, syntax, and discourse. Not only is causation related to many grammatical levels; causation is often only implied. A causative reading may be suggested by the mere juxtaposition of two sentences. As Vera I. Podlesskaya summarizes, a "causal relation between clauses can be encoded: (a) by the mere juxtaposition of clauses; (b) by non-specialized, or contextual, converbs […], i.e. with medial verbal forms that are semantically unspecific; and, (c) by non-specialized conjunctions" (1993, 166). Often, a great

[174] For overview and discussion, cf. Kulikov (2001). Important works on syntactic and semantic parameters of causation include Shibatani (1976a), Aissen (1979), Comrie and Polinsky (1993), Song (1996), Talmy (2000), Escamilla (2012), Copley and Martin (2014), and Nolan, Rawoens and Diedrichsen (2015).

deal of cultural knowledge is required to decode a causal relationship.[175] It is therefore not surprising that it has been difficult to form a unitary, monistic theory of causation.[176]

In essence, a causal relation refers to a certain type of relationship between two events, a causing event and a caused event (Shibatani 1976b, 1). Not all linguists accept this definition (e.g., Dixon 2000, 30), and it is not without problems. Even the word 'causing' should be qualified, because it can refer to many specific kinds of relationships. For that reason, causation should better be viewed within the framework of 'force dynamics', a theory proposed by Talmy in several publications (1976; 1988; 2000) and further developed by Phillip Wolff and others (Wolff and Song 2003; Wolff 2007; Wolff, Barbey, and Hausknecht 2010). Force dynamics is about how entities interact with one another in terms of force: coercion, resistance, assistance, and permission. Talmy explains the relationship between causation and force dynamics as follows:

> [Force dynamics] is, first of all, a generalization over the traditional linguistic notion of 'causative': it analyzes 'causing' into finer primitives and sets it naturally within a framework that also includes 'letting', 'hindering', 'helping', and still further notions not normally considered in the same context. (Talmy 2000, 1:409)

Accordingly, force dynamics, or 'force theory' in Wolff's terms, goes beyond traditional notions of causation, even to the extent of including modal verbs, such as 'may' and 'can', within the framework.

Fundamental to the concept of 'force dynamics' is the assumption of an entity to which another entity exerts force. The first entity, the element of primary attention, has an intrinsic tendency towards either rest or motion, or, in other words, towards either stativity or activity. The other entity, the so-called antagonist, exerts an opposing force to overcome the intrinsic tendency of the former entity, the agonist. If the antagonist is stronger than the agonist, the agonist will succumb to the impingement of the antagonist. But the opposite scenario is also possible. The agonist may be stronger than the antagonist and therefore remain in its initial state *despite* the antagonist's impingement. The latter example explains why somewhat unrelated concepts to traditional accounts of causation, namely 'hindering, 'letting', 'trying', 'preventing', among others, can be regarded as equally important for a force dynamics framework (Talmy 2000, 1:430).

Force dynamics offers a framework or a certain perspective on discourse. While other frameworks account for participant viewpoints or temporal and spatial parameters, force dynamics concerns

[175] For interclausal relationships including causal relations, cf. Renkema (2009).

[176] Some linguists have proposed what is often referred to as 'causal pluralism' in acknowledgement that there are many sorts of causation (cf. Wolff 2014, 101).

"the forces that the elements of the structural framework exert on each other" (Talmy 2000, 1:467). Like molecules exert forces on one another when they collide, linguistic discourse entities (participants) affect each other, either directly and physically, or indirectly and psychologically.[177] Stronger participants will overcome the intrinsic resistance of weaker participants, and they will themselves resist the forces of weaker participants. Taken this way, force dynamics provides a framework for analyzing the interactions and, by implication, the relative strength (agency) of each participant in interaction. By 'relative strength' is implied the notion that the framework does not offer an account of the independent or absolute strength of a participant because strength is only visible in interaction. The comparison with colliding molecules implies a scale of force. The force of molecules is dependent on their weight and speed, but how can the force of linguistic entities be measured, other than recording the (binary) outcome of each linguistic 'collision'?

To answer this question, linguists have proposed a variety of criteria in order to quantify causative events and to divide them into more accurate subtypes. For example, based on one of Talmy's (1976) early accounts of force dynamics, Verhagen and Kemmer (1997, 71) argued for two significant dimensions in categorizing causative events. The first dimension is the distinction between the 'initiator' and the 'endpoint' of the causal event. This distinction relates to a distinction between intransitive causatives (e.g., "He made the baby cry") and transitive causatives (e.g., "She had him bake a cake"). In the former case, the state of the causee is the 'endpoint' of the event, while in the latter case, the causee is an intermediary affecting the so-called 'affectee' (i.e., "a cake"). The second dimension is the distinction between animate and inanimate participants. Verhagen and Kemmer noted that there is a "very marked asymmetry" between animate and inanimate participants in that animate participants can only interact with each other "via the intervening physical world", usually by verbal communication (1997, 71). In other words, as a psychological being, an animate participant "cannot reach into another person's mind and *directly* cause him or her to do, feel, or think something" but relies on communication to indirectly cause him or her to do, feel, or think something (Verhagen and Kemmer 1997, 17; italics original). By contrast, physical entities interfere directly with one another (e.g., a rock causing the window to break). Verhagen and Kemmer's account raises an important question as to how direct, physical causation and indirect, psychological causation could be related in terms of agency. Volition (a feature only applicable to human beings) has often been seen as indicating the most significant parameter in terms of agency. If a participant is volitional, the participant can be seen as more involved and hence more agentive. On the other hand, as Verhagen and Kemmer

[177] Recently, Croft (2012, 203) has argued that empirical data on language use suggest that there is a continuum between physical and psychological (volitional) causation.

highlight, mental participants can only affect one another indirectly in contrast to non-volitional, physical entities which impinge directly on one another.[178]

Another influential typology was offered by Robert M. W. Dixon (2000) who proposed nine semantic parameters related to all three parts of the causative construction, i.e., the verb, the causee, and the causer (2000, 62):

Verb
1. State/activity
2. Transitivity

Causee
3. Control
4. Volition
5. Affectedness

Causer
6. Directness
7. Intention
8. Naturalness
9. Involvement

While the parameters for the causer and the causee are labeled differently in Dixon's typology, they are oriented towards some overlapping core notions, including the mental attitude (volition and intention), the degree of physical involvement (control and directness), and the affectedness (affectedness and involvement) of each of the participants. Dixon's parameters have become highly influential in recent scholarship, although some of the parameters have turned out to be less significant in terms of grammaticalization.[179] In his work, Dixon (2000) also demonstrated that languages may have two or more causative 'mechanisms', for example, in Bahasa Indonesian and Mahay, the causative suffix *-kan* applies to stative and process verbs only, while causative constructions are always periphrastic with activities (cf. Tampubolon 1983, 45). Dixons' framework applies well to Biblical Hebrew which also has two different morphological causatives, *Hiphil* and *Piel*. In light of Dixons' typology, we should expect *Hiphil* and *Piel* to express different kinds of causation or to be associated with different types of verbs (e.g., state vs. activity) or participants (e.g., animate vs. inanimate). It will be the aim of the following section to investigate how morphological causatives can be identified in the first place, and how the two stems, *Hiphil* and *Piel*, can be semantically distinguished.

[178] In fact, Diedrichsen (2015), in a recent application of Verhagen and Kemmer's parameters, suggested two scales of causation: one for animate participants and one involving inanimate participants.

[179] For example, in a large study of 114 constructions in 50 different languages, the parameter of the causee's affectedness was not found to be crucially encoded; cf. Escamilla (2012).

In sum, then, Talmy's framework of force dynamics has led to a multifaceted conception of causation. Causation is not a primitive but can be further subdivided into particular types and degrees of causation, e.g., force, permission, assistance, and non-intervention. Force dynamics has important implications for the analysis of agency since the agency invested by a participant depends not only on whether the participant instigates a causative event, but rather what type of causative event is instigated. Dixon's typology offers concrete means by which to differentiate causative events and helps to explain why languages often have more than one causative type, including Biblical Hebrew. A simplified model of Dixon's typology will be presented in the discussion of lexical causatives and related to force dynamics (§4.4.3). For the time being, I shall investigate the BH morphological causatives attested in H with respect to whether they express different kinds or degrees of causation.

4.4.2 Morphological causatives in Biblical Hebrew

Biblical Hebrew has two inflectional stems associated with causation and morphologically derived from the 'default' stem, *Qal*. The two stems are *Hiphil* and *Piel*, and both stems have passive counterparts, *Hophal* and *Pual*, respectively. *Hiphil* is the prototypical morphological causative since it causes an event (4.13a). By contrast, *Piel* most frequently functions as a factitive in that it causes a state (4.13b).[180] Here, both stems are termed 'morphological causatives', although the term 'causative' has typically been reserved for *Hiphil* in studies of Biblical Hebrew. It is generally acknowledged, however, that *Piel* "is associated with causation" (Waltke and O'Connor 1990, §24.1i), and both stems are characterized by the addition of an external causer *vis-à-vis Qal*. This morphological process may imply the addition of a prefix (*Hiphil*), doubling of a consonant (*Piel*), and vowel change (*Hiphil* and *Piel*).[181] In this respect, both stems can be considered 'morphological causatives'. The internal *quality* of a morphological causative, however, may vary in that it may denote a factitive or a 'real' causative.

(4.13) a. And they went (וַיֵּצְאוּ QA) out to the desert of Shur (Exod 15:22).
→ so that I should bring (אוֹצִיא HI) the sons of Israel out of Egypt? (Exod 3:11).

b. Anyone touching the altar becomes holy (יִקְדָּשׁ QA) (Exod 29:37).
→ And he anointed him to sanctify (לְקַדְּשׁוֹ PI) him (Lev 8:12).

[180] These definitions of 'causative' and 'factitive' follow those of Waltke and O'Connor (1990, 691).

[181] For a general overview of morphological processes for marking causatives, cf. Dixon (2000, 33–34).

Not all verbs occurring in *Hiphil* or *Piel*, however, can be classified as morphological causatives. In a number of cases, the relationship between the verbal root in *Qal* and *Hiphil*/*Piel* cannot be explained in terms of causation or factivity. In particular, the meaning of *Piel* has been heavily disputed, and various functions have been ascribed to it, including resultative/telic, intensifier, and factitive. Therefore, in what follows, the *Hiphil* and *Piel* verbs of Lev 17–26 will be investigated with an eye to two factors: Do the verbs in fact form morphological causatives (in the sense that they add an external causer)? And, if so, can the causative dynamics be analyzed into finer primitives (e.g., causative and factitive) that would account for the existence of the two stems?

4.4.2.1 Hiphil

To form the perfect *Hiphil*-stem, a prefix (ה ‘h’) is added to the verb and the second vowel is changed to *ī*. In the imperfect, the vowel of the prefix is prototypically changed to *a* and the second vowel to *ī* (Van der Merwe, Naudé, and Kroeze 2017, §16.7). Examples of *Hiphil* used as a causative are abundant and include הוֹצִיא ‘bring out’ from יָצָא ‘go out’, הֵקִים ‘erect’ from קָם ‘rise’, and many others.[182]

Not all uses of *Hiphil* are causative, however. A word like אזן HI ‘listen’ is certainly not causative. It is sometimes used in parallel with שׁמע QA ‘hear’, e.g., “Hear, O heavens, listen to me, O earth” (Isa 1:2). To be sure, אזן does not qualify as a morphological causative despite the *Hiphil* stem formation because it has no correspondent in the *Qal*, at least not in the Hebrew Bible, our main source to ancient Hebrew. Therefore, to qualify as a morphological causative, the verb has to appear in both *Hiphil* and in *Qal*. Lev 17–26 contains 47 different *Hiphil* verbs. Some of these also appear in *Qal* in those chapters, but this small corpus is obviously limited. To test whether these verbs may indeed qualify as morphological causatives, their attestations in the remaining CBH corpus are included. More specifically, a verb is considered a potential morphological causative if it occurs at least five times in *Qal* and at least five times in *Hiphil* in the CBH corpus.[183] Consequently, as for Lev 17–26, of the 47 *Hiphil* verbs in those chapters, 21 potentially form morphological causatives.

In order for a verb to be classified as a morphological causative, it should not only be attested in *Qal* and *Hiphil* forms. It should also add an external causer in *Hiphil* that would distinguish the *Hiphil* sense from its non-causative *Qal* equivalent. In other words, we may expect an increase in transitivity for morphological causatives, while the remaining *Hiphil* verbs, not forming

[182] For more examples, cf. Joüon and Muraoka (1993, 162).

[183] Only verbs in simple predicate phrases (excluding participles) and verbs with object/subject suffixes are included in the dataset.

morphological causatives, should not exhibit such increase. Accordingly, the 21 potential morphological causatives in Lev 17–26 were tested for transitivity alternation between *Qal* and *Hiphil*. All instances of the verbs in the CBH corpus were collected along with the syntactic frames (intransitive, transitive, or ditransitive) in which they occur. Intransitive, transitive, and ditransitive verbs are defined as follows:

(4.14) a. **Intransitive**: A verb with one argument, the subject only. Since the subject is not obligatory in BH, intransitive frames include here both clauses with explicit subject and clauses without explicit subject, e.g.:

מַדּוּעַ לֹא־יִבְעַר הַסְּנֶה

maddû$_{a}^{ʕ}$	lō^{ʔ}=	yi-	Ø-	v^{ʕ}ar-	Ø	ha-	ss^{ə}ne^{h}-	Ø
INTR	NEG=	IMPF-	QA-	burn-	3.M.SG	ART-	bush-	SG.AB

‘Why does the bush not burn?’ (Exod 3:3).

b. **Transitive**: A verb with two arguments: the subject and an object (lexical or suffix),[184] e.g.:

וַיְקַדֵּשׁ אֶת־הָעָם

wa-	y^{ə}-	Ø-	qaddēš-	Ø	^{ʔ}et=	hā-	^{ʕ}ām-	Ø
CLM-	NARR-	PI-	holy-	3.M.SG	P=	ART-	people-	SG.AB

‘And he sanctified the people’ (Exod 19:14).

c. **Ditransitive**: A verb with three arguments: the subject and two objects (one suffix + one lexical, or two lexical objects), e.g.:

וְלַמְּדָהּ אֶת־בְּנֵי־יִשְׂרָאֵל

w^{ə}-	Ø-	Ø-	lamm^{ə}d-	Ø-	āh	^{ʔ}et=	b^{ə}n-	ê=	yiśrā^{ʔ}ēl
CLM-	IMP-	PI-	learn-	2.M.SG-	3.F.SG	P=	son-	M.PL.CS=	Israel

‘Teach the Israelites it’ (Deut 31:19).

Any verb may occur in either of these frames and in both of the stems. Thus, a verb may appear in six different syntactic constellations (e.g., intransitive *Qal*, etc.), although, in reality, that is rarely the case. On the basis of these syntactic constellations, a simple alternation ratio can be computed. If the

[184] In BH, objects need not be explicit but can be inferred from the context. However, to decide whether an object should be inferred from the discourse context or whether the predicate expresses a distinct lexical sense by means of valence decrease is not always easy to decide (cf. Winther-Nielsen 2017, 379). For the present analysis, only phrases marked as direct objects (lexical or suffix) are included. Complement phrases, which sometimes – but not always – mark arguments, are not included.

ratio of any constellation is given as the sum of all attestations of a verb in a particular stem and frame proportional to the sum of all constellations of that verb and stem, the alternation ratio (*R*) would be computed by multiplying the ratio of a *Qal* constellation with the ratio of a *Hiphil* constellation:

$$\frac{\sum verb(Qal, frame)}{\sum verb(Qal)} \times \frac{\sum verb(Hiphil, frame)}{\sum verb(Hiphil)} = R$$

If, for instance, a verb is always intransitive in *Qal* and always transitive in *Hiphil*, the alternation ratio between these two would be 100%. This makes sense because there would be 100% chance (on the basis of the corpus, of course) that the particular lexeme would always be *Qal* intransitive and *Hiphil* transitive. In most cases, however, the picture is less clear. A verb may occur in different frames in the same stem. For instance, it may be 30% intransitive and 70% transitive in *Qal* and 50% intransitive, 40% transitive, and 10% ditransitive in *Hiphil*. So, in order to compute the overall alternation ratio between the *Qal* constellations and the *Hiphil* constellations, we need to compute the alternation ratios of any constellation in *Qal* and any constellation in *Hiphil* and compare these. In particular, we want to calculate whether the verb generally alternates to lower or higher transitivity when it alternates from *Qal* to *Hiphil*. An alternation from an intransitive frame to a transitive frame is an alternation towards higher transitivity. In fact, there are three alternations possible for alternating towards higher transitivity: intransitive → transitive, intransitive → ditransitive, and transitive → ditransitive. The opposite alternations would be alternations towards lower transitivity. As noted, a verb may occur in all six constellations (three in *Qal* and three in *Hiphil*) which means that there are nine possible alternations from *Qal* to *Hiphil*. The overall alternation ratio is computed by summing all negative alternation ratios (towards lower transitivity) and subtract those from the sum of all positive alternation ratios (towards higher transitivity). This computation is exemplified in the table below. The scale goes from -100% (an argument is always dropped in *Hiphil*) to 100% (an argument is always added in *Hiphil*). If the result is 0%, the transitivity neither increases nor decreases when the verb alternates from *Qal* to *Hiphil*. As shown in the table, הלך ‘walk’ (99%) has a much higher transitivity alternation ratio than ילד ‘bear’ (25.6%). In other words, הלך ‘walk’ has a higher tendency towards adding an extra argument in *Hiphil* than does ילד ‘bear’. We may therefore hypothesize that the *Hiphil* of הלך ‘walk’ is more likely to form a morphological causative than that of ילד ‘bear’. In fact, since ילד only adds an extra argument in 25.6% of its alternations from *Qal* to *Hiphil*, in the majority of the cases, it does not add an extra argument, and it does, therefore, probably not form a morphological causative in *Hiphil* according to this hypothesis.

Table 4.8 Calculation of the overall transitivity alternation ratio for two concrete verbs[185]

		הלך ‘walk’ (%)	**ילד ‘bear’ (%)**
1	**Intransitive *Qal* → Transitive *Hiphil***	99.3	29.7
2	**Intransitive *Qal* → Ditransitive *Hiphil***	0.0	0.0
3	**Transitive *Qal* → Ditransitive *Hiphil***	0.0	0.0
4	**Ditransitive *Qal* → Transitive *Hiphil***	0.2	0.0
5	**Ditransitive *Qal* → Intransitive *Hiphil***	0.0	0.0
6	**Transitive *Qal* → Intransitive *Hiphil***	0.0	4.1
	Transitivity increase (row 1 + 2 + 3)	99.3	29.7
	Transitivity decrease (row 4 +5 + 6)	0.2	4.1
	Total (increase – decrease)	99.0%	25.6%

Along with the remaining verbs in H attested in both *Qal* and *Hiphil*, הלך ‘walk’ and ילד ‘bear’ are plotted in Figure 4.6. The majority of the verbs show a tendency towards higher transitivity. Two verbs show a minor tendency towards greater transitivity, that is, less than 50%, which means that the majority of their alternations do neither increase nor decrease in transitivity. Three verbs even have an overall tendency towards transitivity decrease when alternating from *Qal* to *Hiphil*.

In total, 22 different verbs qualifying as potential morphological causatives in *Hiphil* are attested in Lev 17–26. All attestations of these verbs in *Qal* and *Hiphil* have been collected from the entire CBH corpus, resulting in a dataset comprising 2,657 clauses corresponding to 17.94% of all relevant cases.[186] The verbs display a combined tendency towards increased transitivity of 70.97%. This tendency supports the common understanding of *Hiphil* as a morphological causative. To evaluate the hypothesis of a correlation between causation and transitivity increase, all verbs have been inspected manually. In what follows, the verbs will be investigated in order to discern whether the transitivity hypothesis adequately accounts for morphological causatives. Moreover, the finer semantic properties of the events will be conceptualized using RRG logical structures.

[185] The computation is done by calculating all individual alternations from one combination of stem + frame to another. The table shows that הלך ‘walk’ occurs predominantly in intransitive *Qal* and transitive *Hiphil*, resulting in an alternation ratio of 99.3% between these two constellations. The overall alternation ratio is computed by adding the scores of rows 1–3 and subtracting the scores of rows 4–6. It should be noted that alternations between two similar frames (e.g., Intransitive *Qal* → Intransitive *Hiphil*) are not included in the computation. It becomes evident that ילד ‘bear’ has a smaller alternation ratio towards higher transitivity than הלך ‘walk’ because most of its alternations are between similar frames.

[186] The relevant cases are constituted by all verbs in the CBH corpus attested at least five times in both *Qal* and *Hiphil*: 14,808 cases. Only verbs, possibly with object/subject suffixes, in predicate phrases are included (excluding participles). The verbs must occur in either of the three transitivity frames described above.

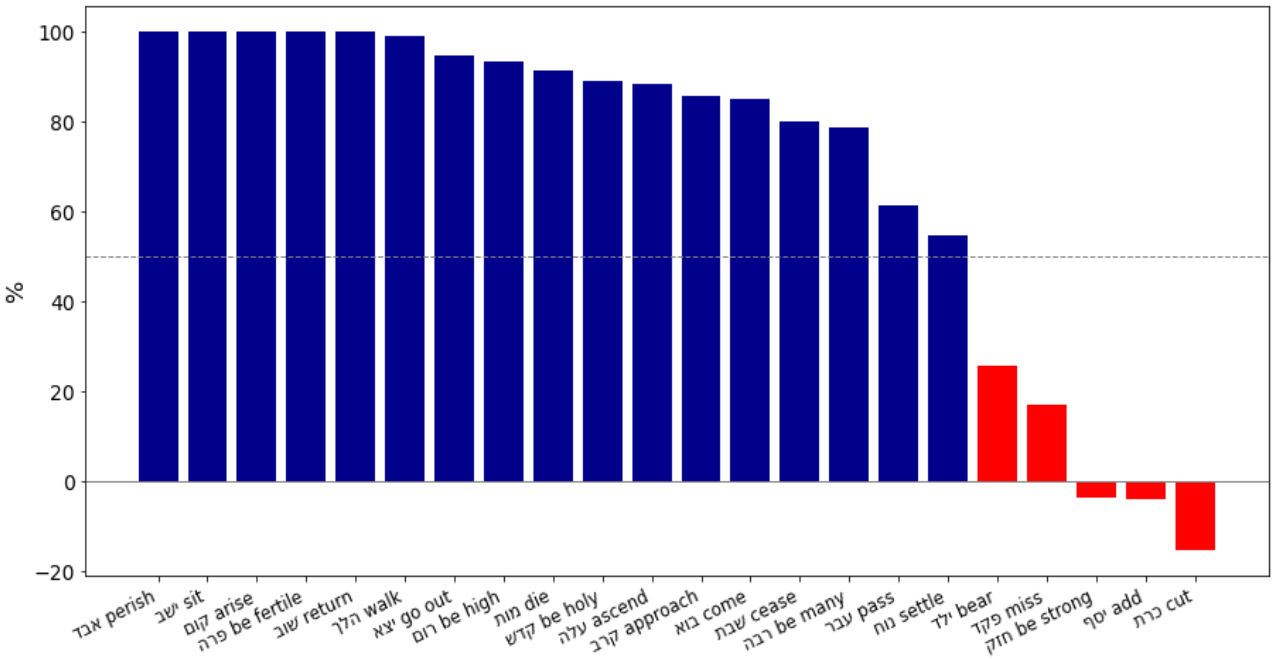

Figure 4.6 Transitivity alternation ratios for verbs in *Qal* and *Hiphil*. Red bars signal that the transitivity alternation ratio is below 50%; hence, the respective verbs are hypothesized not to form morphological causatives in *Hiphil*

4.4.2.1.1 *Hiphil* in Lev 17–26

אבד ‘perish’

אבד ‘perish’ is one of a few verbs with an overall alternation ratio of 100% which means that it always occurs in higher transitive frames in *Hiphil*. The verb clearly forms a morphological causative in *Hiphil*, since the state of non-existence denoted by *Qal* (4.15a) can be turned into a causative event using *Hiphil* (4.15b). Curiously, the verbal root also occurs frequently in *Piel* (4.15c), and, at first glance, it appears to carry the same meaning as *Hiphil*.

(4.15) a. וַאֲבַדְתֶּם בַּגּוֹיִם

wa- Ø- Ø- ʔavad- tem ba- Ø- gôy- im

CLM- SEQU- QA- perish- 2.M.PL P- ART- people- M.PL.AB

‘You shall perish among the nations’ (Lev 26:38).

b. וְהַאֲבַדְתִּי אֶת־הַנֶּפֶשׁ הַהִוא

wə- Ø- ha- ʔavad- tî ʔet= ha- nnefeš- Ø ha- hiwʔ

CLM- SEQU- HI- perish- 1.SG P= ART- soul- SG.AB ART- PRON

‘And I will destroy that soul [from the midst of his people]’ (Lev 23:30).

c. וְאִבַּדְתֶּם אֵת כָּל־מַשְׂכִּיֹּתָם
wᵊ- Ø- Ø- ʔibbad- tem ʔēt kol- Ø= maśkîy- ōt- ām
CLM- SEQU- PI- destroy- 2.M.PL P whole- SG.CS= picture- F.PL.CS- 3.M.PL
'You shall destroy all their figured stones' (Num 33:52).

Ernst Jenni (1967), in an important study of the difference between *Hiphil* and *Piel*, dedicated his discussion to the meaning of אבד. Since the verb has practically the same meaning in both stems, it provides an important case for pondering the respective meanings of the stems. Rejecting the classical understanding of *Piel* as an intensifier, because both *Hiphil* and *Piel* equally denote destruction and extinction, Jenni noted important differences between the uses of the two stems. Most importantly, Jenni argued that *Hiphil* is a real causative, because the causee is caused to undergo a process towards destruction. By contrast, *Piel* denotes a much simpler event in that the undergoer is simply put into a state-of-being, and there is thus an exclusive focus on the resulting state. According to this interpretation, *Hiphil* is a real causative, while *Piel* is a factitive. Jenni supports this interpretation by noting that *Hiphil* is only used with human undergoers in contrast to *Piel* which also accepts inanimate undergoers.[187] That *Hiphil* only accepts human undergoers is reasonable if the undergoer is also the undersubject, that is, the undergoer is not simply put into a state but is the subject of the caused event.[188] The distinction between factitive and causative implies that the relationship between the causer and the resulting event is less immediate in *Hiphil* where the undersubject performs the process of destruction. This difference is captured in RRG logical structures by differentiating these caused events into one of incremental process with a termination (*Hiphil*) [**do′** (x, Ø)] CAUSE [PROC

[187] Although in agreement with Jenni, Waltke and O'Connor (1990, §27.2) caution that the association of human undergoers with *Hiphil* and inanimate undergoers with *Piel* should not be exaggerated. Jenni (1967, 153) argues further that *Hiphil* is only used in so-called occasional contexts, i.e., case laws and concrete narrative situations. By contrast, *Piel* is also used in habitual contexts such as apodictic laws. Finally, the relationship between the event and the undergoer in *Hiphil* is 'substantial', which means that the undergoer undergoes the event by logical necessity. *Piel*, on the other hand, assumes an 'accidental' relationship between event and undergoer, because the destruction or extinction happens as an accidental consequence of previous events. This difference is illustrated by comparing Deut 12:3 and 7:24. In the former case, אבד PI serves to sharpening the rhetoric, i.e., "blot out the names of the idols" is a consequence – but not a necessary consequence – of breaking down the altars and burning the sacred poles; hence accidental. In the latter case, אבד HI in "blot out the names of the kings" is a critical part of the destruction. For this and other examples, cf. Jenni (1967, 154–55).

[188] The subject of the caused event, also called 'undersubject', refers to the original subject in *Qal*, e.g., "you" in (4.15a). The original object in *Qal* (if any) is called the 'underobject'.

degenerate′ (y) & INGR NOT **exist′** (y)] and one of simple accomplishment (*Piel*) [**do′** (x, Ø)] CAUSE [INGR NOT **exist′** (y)].

יׇשַׁב ‘sit’

This verb belongs to a class of stage-level predicates which is characterized by sometimes referring to temporary events (Winther-Nielsen 2016, 81).[189] The situation described in sentence (4.16a) is temporary and lasts for only seven days. In (4.16b), **יׇשַׁב** HI denotes a causative event where the undersubject is caused or allowed to live in booths in the wilderness. With these stage-level predicates the *Hiphil* is not used to express the bringing about of a state (factitive) but the causing of an event (causative). The contrast is readily seen with another stage-level predicate, שָׁכַן ‘dwell’, which occurs in both *Piel* and *Hiphil* and offers an opportunity for comparison. When *Piel* is used, the focus is on the state of dwelling and not that the undergoer performs an event of settling down (e.g., Deut 16:6).

(4.16) a. בַּסֻּכֹּת תֵּשְׁבוּ שִׁבְעַת יָמִים

ba-	Ø-	ssukk-	ōt	tē-	Ø-	šᵊv-	û	šivʿ-	at	yām- îm
P-	ART-	booth-	F.PL.AB	IMPF-	QA-	sit-	2.M.PL	seven-	F.SG.CS	day- M.PL.AB

‘You shall live in booths for seven days’ (Lev 23:42).

b. כִּי בַסֻּכּוֹת הוֹשַׁבְתִּי אֶת־בְּנֵי יִשְׂרָאֵל

kî	va-	Ø-	ssukk-	ôt	Ø-	hô-	šav-	tî	ʾet=	bᵊn- ê yiśrāʾēl
CLM	P-	ART-	booth-	F.PL.AB	PERF-	HI-	live-	1.SG	P=	son- M.PL.CS Israel

‘… that I made the sons of Israel live in booths’ (Lev 23:43).

קוּם ‘arise’

Many motion verbs score high in transitivity alternation, including the verb קוּם ‘arise’ (100%). In *Qal* the verb is used of the activity of rising up or taking a stand (4.17a). The *Hiphil* derives a causative event from the *Qal* and is frequently translated ‘erect’, as in (4.17b). Motion verbs like קוּם tend to be causative in *Hiphil*, and these verbs generally score high in the transivitity alternation. The motion

[189] Stage-level predicates are predicates depicting stative situations that are not necessarily permanent. While some situations are necessarily permanent, such as “The city lies at the base of the mountains,” other situations are temporary, e.g., “The book is lying on the table.” In English, the progressive *-ing* does not normally occur with stative verbs, but it can occur with stage-level predicates, e.g., “The book is lying on the table.” Besides יׇשַׁב ‘sit’, other frequent BH stage-level predicates are עָמַד ‘stand’, שָׁכַב ‘lie’, שָׁכַן ‘dwell’, גּוּר ‘dwell’, and לִין ‘spend the night’ (Winther-Nielsen 2016, 81).

verbs found in Lev 17–26 are שׁוב ‘return’ (100%), הלך ‘walk’ (99%), יצא ‘go out’ (95%), עלה ‘ascend’ (89%),[190] קרב ‘approach’ (86%), בוא ‘come’ (85%), and עבר ‘pass’ (61%).

(4.17) a. וַיָּקָם לִקְרָאתָם
wa- yyā- Ø- qom- Ø li- Ø- Ø- qʾrāʾt- ām
CLM- NARR- QA- stand- 3.M.SG P- INF- QA- meet- 3.M.PL
‘And he rose to meet them’ (Gen 19:1).

b. וּמַצֵּבָה לֹא־תָקִימוּ לָכֶם
û- maṣṣēv- āʰ lōʾ= tā- Ø- qîm- û l- āxem
CLM- pillar- F.SG.AB NEG= IMPF- HI- stand- 2.M.PL P- 2.M.PL
‘You may not erect standing stones for yourselves’ (Lev 26:1).

מות ‘die’

מות ‘die’ forms a morphological causative in *Hiphil* because the original subject in *Qal* (4.18a) becomes the undersubject in *Hiphil* (4.18b). Traditionally, this verb is interpreted as a process leading towards an instant change of state in *Qal*, that is, an accomplishment BECOME **dead′** (x) (cf. Winther-Nielsen 2016, 88), although in some cases it might indicate a pure state-of-being (Winther-Nielsen 2008, 471). The meaning of (4.18a) does not so much refer to the state of death than to the childless process towards that state. In *Hiphil* the verb refers to the act of killing, a causative accomplishment [**do′** (they, Ø)] CAUSE [BECOME **dead′** (him)], yet less brutally than הרג ‘kill’ which would be translated ‘murder’.[191]

(4.18) a. עֲרִירִים יָמֻתוּ
ʿaʿrîr- îm yā- Ø- mut- û
ADJ.childless- M.PL.AB IMPF- QA- die- 3.M.PL
‘They shall die childless’ (Lev 20:20).

[190] Although עלה most frequently means ‘ascend’ and denotes physical activity, the verb also appears frequently in cultic contexts. For instance, to sacrifice an offering is commonly expressed by עלה HI (e.g., Gen 8:20; 22:2, 13; Exod 24:5; 30:9; 40:29; Lev 14:20; 17:8). Although one might be tempted to see the cultic use as a metaphorical extension of the causative of ‘ascend’, that is, to cause the sacrifice to ascend to YHWH, it should be noted that the same verb is also used to express the kindling of a lamp (e.g., Exod 25:37; 27:20; 40:25; Lev 24:2). Therefore, the verb is best translated ‘burn’ or ‘kindle’ in the contexts of sacrifice and lamp kindling, cf. Milgrom (1991, 172–74).

[191] The decomposition of killing verbs is discussed in Winther-Nielsen (2008, 469–71). It has also been noted that when מות HI forms parallel expressions with נכה HI ‘strike’, the verb does not so much refer to death but the act leading to death (cf. Josh 10:26; 11:17; 2 Sam 4:7; 18:15; 21:17; 1 Kgs 16:10; 2 Kgs 15:10, 30) (Gerleman 1984).

b. לְבִלְתִּי הָמִית אֹתוֹ
l^{ə}- viltî- Ø Ø- hā- mît ^{ʔ}ōt- ô
P- absence- SG.AB INF- HI- die P- 3.M.SG
'… and do not put him to death' (Lev 20:4).

שׁבת 'cease'

For other verbs it is less clear whether, or to what extent, *Hiphil* is derivable from *Qal*. One such case is שׁבת 'cease' which occurs six times in Lev 17–26. In *Qal*, the root typically means 'rest' or 'cease' from activity (4.19a). However, in conjuction with the noun שׁבת 'sabbath' the idea of observing the sabbath is expressed (Lev 23:32; 25:2; 26:35). In *Hiphil* a similar idea of 'cease' exists, but it is not immediately derivable from *Qal*. In (4.19b), the idea is that YHWH hinders wild animals from being in the land, or, put differently, YHWH causes the animals to *cease* from being in the land. In general, שׁבת HI appears to denote causation of absence, either by removal or hindrance of access. Obviously, by implication, removal or hindrance of access means ceased activity.[192]

(4.19) a. אָז תִּשְׁבַּת הָאָרֶץ
^{ʔ}oz ti- Ø- šbat- Ø hā- ^{ʔ}āreṣ- Ø
ADV.then IMPF- QA- cease- 3.F.SG ART- land- SG.AB
'Then the earth shall rest' (Lev 26:34).
rest′ (earth)

b. וְהִשְׁבַּתִּי חַיָּה רָעָה מִן־הָאָרֶץ
w^{ə}- Ø- hi- šbat- tî ḥayy- ā^{h} ro^{ʕ}ā^{h} min= hā- ^{ʔ}āreṣ- Ø
CLM- SEQU- HI- cease- 1.SG beast- F.SG.AB ADJ.evil P= ART- land- SG.AB
'I will keep the wild animals from the land' (Lev 26:6).
[**do′** (I, Ø)] CAUSE [NOT **be-LOC′** (land, wild animals)]

Hiphil verbs with <50% transitivity alternation scores

The verbs investigated so far scored higher than 50% in transitivity alternation and were hypothesized to form morphological causatives in *Hiphil*. A minority of verbs scored less than 50% and are, thus, less likely to form morphological causatives in *Hiphil* because they are less likely to add an external causer. These verbs will be discussed in the following.

[192] Cf. Exod 5:5; 12:15; Lev 2:13; Deut 32:26; 2 Kgs 23:5, 11.

ילד ‘bear’

This verb occurs once in *Hiphil* in Lev 17–26 and never in *Qal*. It occurs frequently in both stems elsewhere, however, particularly in genealogies (e.g., Gen 5 and 11). It is common to differentiate between *Qal* ‘to bear a child’ and *Hiphil* ‘cause to bring forth’ or ‘beget’ (Köhler et al. 1994, ילד; Kühlewein 1984), thereby underscoring the role of *Hiphil* as adding an external causer to the event. One would suspect *Qal* to have female subjects and *Hiphil* male subjects, but that is not always the case. Even though female subjects tend to be used with *Qal* and male subjects with *Hiphil*, male subjects can occur with both stems, e.g., (4.20a).

(4.20) a. וְעִירָד יָלַד אֶת־מְחוּיָאֵל

wᵊ-	ʿîrād	Ø-	Ø-	yālad-	Ø	ʾet=	mᵊḥûyāʾēl
CLM-	Irad	PERF-	QA-	bear-	3.M.SG	P=	Mehujael

‘And Irad bore Mehujael’ (Gen 4:18).

b. וַיּוֹלֶד מִן־חֹדֶשׁ אִשְׁתּוֹ אֶת־יוֹבָב

wa-	yyô-	w-	led-	Ø	min=	ḥōdeš	ʾiš-	t-	ô	ʾet=	yôvāv
CLM-	NARR-	HI-	bear-	3.M.SG	P=	Hodesh	woman-	F.SG.CS-	3.M.SG	P=	Jobab

‘By Hodesh, his wife, he begot Jobab’ (1 Chr 8:9).

If *Hiphil* is indeed the causative equivalent of *Qal*, the full causal chain is rarely fully syntactically expressed, e.g., “a man causing a woman to bear a child.” The absense of a full syntactic causal chain is illustrated well by the low transitivity alternation ratio (26%) because a full causal chain in *Hiphil* would increase the transitivity alternation ratio. The example in (4.20b) provides an exception to the common simplified syntax (although outside the actual corpus of the present analysis). If this interpretation is true, the *Qal* event is best understood as a causative accomplishment of existence (cf. Winther-Nielsen 2016, 88), while an extra causer is added in *Hiphil*: [**do′** (x, Ø)] CAUSE [[**do′** (y, Ø)] CAUSE [BECOME **exist′** (z)]].

פקד ‘miss’

פקד ‘miss’ has a small tendency towards higher transitivity in *Hiphil* (17%). The most common meaning of the verb in *Qal* is ‘visit’, ‘summon’ (an army), and ‘avenging’ sin. In *Hiphil*, the verb can similarly denote ‘summon’ (e.g., “summon terror against you” in Lev 26:16), or ‘install’ in an official position. Winther-Nielsen (2016, 85) contrues the verb as expressing a simple, non-causative event, that is, **do′** (x, [**visit′** (x, y)]) or **do′** (x, [**summon′** (x, y)]), depending on the actual use. In any case, the difference between *Qal* and *Hiphil* cannot be explained in terms of causation.

חזק ‘be strong’

חזק ‘be strong’ has a negative tendency towards higher transitivity in *Hiphil* (-4%). The examples from the corpus also demonstrate that *Hiphil* cannot always be seen simply as a causative equivalent to *Qal*:

(4.21) a. כִּי חָזְקוּ בְּנֵי יִשְׂרָאֵל
kî Ø- Ø- ḥāzʿq- û bʿn- ê yiśrāʾēl
CLM PERF- QA- strong- 3.PL son- M.PL.CS Israel
‘When the sons of Israel became strong’ (Josh 17:13).

b. וְהֶחֱזַקְתָּ בּוֹ
wʿ- Ø- he- ḥʿzaq- tā b- ô
CLM- SEQU- HI- strong- 2.M.SG P- 3.M.SG
‘You shall seize it [= the hand]…’ (Lev 25:35).

c. הַחֲזֵק מִלְחַמְתְּךָ אֶל־הָעִיר
Ø- ha- ḥᵃzēq- Ø milḥam- t- ʿxā ʾel= hā- ʿîr- Ø
IMP- HI- be.strong- 2.M.SG battle- F.SG.CS- 2.M.SG P= ART- town- SG.AB
‘Intensify your war against the city!’ (2 Sam 11:25).

The verb regularly expresses a situation of being strong in *Qal* (4.21a). *Hiphil* can be used to express the causative counterpart of ‘being strong’, namely, ‘strengthen’ or ‘intensify’, as in (4.21c). However, the *Hiphil* also frequently occurs with “hand” or another object to be “seized” (4.21b). Jenni argues that חזק + oblique object is best paraphrased “(die Hand) an etwas fest sein lassen” (1968, 46), that is, letting the hand be firm on something, or simply, grasping or seizing. This construal comes close to a regular causative. Jenni, however, does not provide examples, and I have only been able to identify one example where an object in accusative seizes an oblique object: “Let your hand be firm on/seize him [= the boy], because I will make him a great nation” (Gen 21:18).[193]

יסף ‘add’

יסף ‘add’ also has a tendency towards lesser transitivity when alternating from *Qal* to *Hiphil* (-4%). It occurs four times in Lev 17–26, three times in *Qal* and once in *Hiphil*. The few examples in Lev 17–26 yield a variety of meanings. The verb is used in *Qal* in the sense of ‘add’ (4.22a), but also in the sense of ‘continue’ (4.22b). In *Hiphil* the verb is used to denote ‘increase’ (4.22c) which seems similar to ‘add’. In any case, the relationship between *Qal* and *Hiphil* is not one of causation.

[193] A slightly different example is found in Judg 7:20: “And they seized the torches with their left hands” where “with the left hands” is a PP.

(4.22) a. וְיָסַף חֲמִשִׁיתוֹ עָלָיו
wᵊ- Ø- Ø- yāsaf- Ø ḥᵃmišî- t- ô ʿāl- āʸw
CLM- SEQU- QA- add- 3.M.SG ADJ.five- F.SG.CS- 3.M.SG P- 3.M.SG
'He shall add its fifth to it' (Lev 22:14; cf. 26:21).

b. וְיָסַפְתִּי לְיַסְּרָה אֶתְכֶם שֶׁבַע
wᵊ- Ø- Ø- yāsaf- tî lᵊ- Ø- Ø- yassᵊrāʰ ʾet- xem ševaʿ- Ø
CLM- SEQU- QA- add- 1.SG P- INF- PI- discipline P- 2.M.PL seven- SG.AB
'And I will continue to discipline you sevenfold…' (Lev 26:18).

c. לְהוֹסִיף לָכֶם תְּבוּאָתוֹ
lᵊ- Ø- hô- sîf l- āxem tᵊvûʾ- āt- ô
P- INF- HI- add P- 2.M.PL produce- F.SG.CS- 3.M.SG
'… in order to increase its produce for you' (Lev 19:25).

כרת 'cut'

כרת 'cut' has the smallest transitivity alternation score among the verbs considered here (-15%), and a closer inspection of the verb supports the hypothesis that the verb does not form a morphological causative in *Hiphil*. כרת is frequently deployed in *Qal* to denote 'cutting down', e.g., of trees (Judg 9:48). It is also used to express the initiation of a covenant or treaty. In *Hiphil* it expresses destruction or removal (e.g., extermination of a person, cf. Lev 17:10), somewhat similar to the *Qal* meaning of 'cutting down'. Interpreted this way, the event is a causative accomplishment of non-existence.

4.4.2.1.2 Summary

To conclude, then, of the seventeen verbs hypothesized to form morphological causatives in *Hiphil*, two were marked ambiguous (שׁבת 'cease', עלה 'ascend'). For the remaining verbs, the relationship between *Qal* and *Hiphil* could reasonably be explained in terms of causation. The five remaining verbs in this corpus were hypothesized not to form morphological causatives in *Hiphil* due to their low transitivity alternation ratios. On the basis of closer analysis, the hypothesis held true in most cases since the variation between the stems could not easily be accounted for by causation. ילד 'bear' provided an exception in that the *Hiphil* stem formation could in fact be construed as adding an extra causer to an existing causative event of giving birth. Moreover, חזק HI 'be strong' could be construed as a morphological causative in a number of cases, perhaps even the use of חזק HI as 'seize/grasp', if an object (most likely 'hand') to seize something is inferred.

4.4.2.2 Piel

While *Hiphil* is the prototypical morphological causative in BH, another stem, *Piel,* also seems to carry a causative sense insofar as the alternation between *Qal* and *Piel* often involves the addition of an external causer. Morphologically, *Piel* is prototypically formed by doubling of the second stem consonant and by vocalization changes. In the perfect, the stem vowel is *i*. In the imperfect, the prefix vowel is reduced, and the stem vowel is *a* (Van der Merwe, Naudé, and Kroeze 2017, §16.4).

4.4.2.2.1 History of research

The great diversity of meanings associated with *Piel* often perplexes linguists. Traditionally, *Piel* was primarily seen as an intensifier, although other functions were acknowledged as well. Inspired by Albrecht Goetze's (1942) study of the Akkadian D-stem, Jenni (1968) embarked on a close analysis of all 415 BH verbs attested in *Piel*, the Hebrew D-stem. He came to the conclusion that with *Qal* intransitive verbs, *Piel* is factitive, while with transitive verbs, *Piel* is resultative. Waltke and O'Connor further developed Jenni's classification. They divided the factitive into a 'real' factitive and a 'psychological/linguistic' factitive. The 'real' factitive refers to an objective event which can be seen apart from the participants involved (Waltke and O'Connor 1990, §24.2.e). The 'psychological/linguistic' factitive refers to a subjective event where the resultant state of affairs cannot be seen (Waltke and O'Connor 1990, §24.2.f). To the latter category belongs 'declarative' and 'estimation' which do not bring about an objective state but *declare* or *esteem* an undergoer to be in a certain state.

Most recently, John C. Beckman (2015) has challenged the explanation for *Piel* given by Waltke and O'Connor and revived the classical interpretation of *Piel* as an intensifier. In particular, Beckman argues that a close inspection of the *Piel* verbs does not support the claim that *Piel* is primarily used with a factitive/resultative meaning. On the contrary, *Piel* is far more often used to describe processes, an aspect otherwise attributed to *Qal* by Waltke and O'Connor (Beckman 2015, 247). Moreover, the problem for both Jenni and Waltke and O'Connor is that they cannot account for syntactically intransitive verbs in *Piel* (Beckman 2015, 21). These verbs include דבר 'speak' and צוה 'command' which are the two most frequent lexemes in *Piel* and which are certainly not factitive.

Beckman relies on N. J. C. Kouwenberg's (1997; 2010) diachronic work on the Akkadian D-stem. Kouwenberg had argued that the D-stem was originally formed by geminate adjectives and was marked for intensity in contrast to the regular G-stem (which was only formed by simple adjectives).[194] According to Beckman, this Proto-Semitic development explains the association between *Piel* and intensification. Later, the D-stem category was broadened to include other expressions of

[194] For a summary of Kouwenberg's thesis, cf. Beckman (2015, 12–13).

verbal plurality. Kouwenberg considers 'verbal plurality' as a broad category not only including plural subjects and objects but also intensive action, iteration, and continuation. Moreover, since the D-stem was marked for intensity, it evolved into being marked for high semantic transitivity.[195] In other words, because intensity is associated with high affectedness of the participants involved, the D-stem became marked for high semantic transitivity with highly affected participants. In effect, "because a factitive meaning has a higher semantic transitivity than a stative meaning, the D stem became preferred for a factitive meaning, and the G stem lost its factitive meaning" (Beckman 2015, 13).

Diachronic considerations aside, although some verbs in the *Piel* stem formation are indeed factitive in contrast to their non-factitive *Qal* correspondents, the *Piel* should not be considered a factitive stem according to Beckman. Rather, *Piel* is more fundamentally associated with verbal plurality and high semantic transitivity. In this respect, the intensification often associated with *Piel* can be explained as an implication of verbal plurality (2015, 248). The fact that *Piel* more often has a factitive meaning than *Qal* is not because *Piel* is a factitive stem. Rather, according to Beckman, the reason for *Piel* more often being factitive lies in the fact that *Piel* prefers high semantic transitivity contexts while *Qal* prefers low semantic transitivity contexts (2015, 244). This observation is underscored by the observation that verbs with the same meaning in *Qal* and *Piel* prefer *Qal* in low semantic transitivity contexts and *Piel* in high semantic transitivity contexts. Beckman's thesis explains a number of *Qal*-*Piel* alternations, e.g., זבח 'slaughter' which can occur in both *Qal* and *Piel* with plural subject but never in *Piel* with singular subject (2015, 222). In fact, of the 138 verbs with similar meaning in *Qal* and *Piel*, 49 are marked for verbal plurality in *Piel* but not in *Qal* (2015, 220). These verbs thus support Beckman's intensification/plurality thesis. If the criteria are tightened to include only those verbs occurring at least five times in each stem, 27% of the verbal roots give "some level of evidence" of being marked for plurality in *Piel* and not in *Qal*, while 15% give "strong, unambiguous evidence" of being so marked (2015, 222). While Beckman should certainly be commended for his empirical approach, most verbal roots are not well accounted for by his thesis of verbal plurality. Beckman (2015, 224) also demonstrates a tendency towards higher semantic transitivity in *Piel* than in *Qal*. It should be noted, however, that the most frequent verbs have been sampled, which means that infrequent verbs are given more statistical weight. The verb דבר 'speak', for instance, occurs 1,085 times in *Piel*, always in low-transitivity contexts, but only 90 of those instances are included.

[195] 'Semantic transitivity' contrasts syntactic transitivity (cf. Hopper and Thompson 1980; Givón 2001a, 1:109–10). Whereas syntactic transitivity relates to the number of syntactic arguments, "Semantic transitivity is a multivalued property of a clause; the more the agent of the clause affects the patient, the higher the semantic transitivity of the clause" (Beckman 2015, 13 n. 9). Further explanation is given below (§4.4.3.1).

Due to the sampling, Beckman can demonstrate a stronger tendency towards higher semantic transitivity in *Piel*, than if he had included all instances.

The general challenge for investigating the function(s) of *Piel* is the vast number of infrequent verbs. In the Hebrew Bible, only 77 roots occur more than five times in both *Qal* and *Piel* out of 302 roots occurring in both of these stems. Consequently, for most verbs we cannot know whether we observe a language pattern in our corpus, or whether the relative frequencies are merely accidental. Moreover, while both of the two interpretations of *Piel*, the factitive/resultative interpretation and the intensifier interpretation, succeed at accounting for a good portion of the verbal roots, none of them account well for all of the roots. The purpose of this study is not to provide a resolution to this deadlock, as it would require a study on its own. Rather, the purpose of the following survey is two-fold: Firstly, the verbs of Lev 17–26 potentially forming morphological causatives in *Piel* will be identified on the basis of the transitivity alternation between *Qal* and *Piel*. In this respect, the procedure is similar to that of *Hiphil* (cf. §4.4.2.1). Secondly, the *Piel* verbs of Lev 17–26 will be conceptualized in RRG logical structures in order to discern finer causative distinctions and to derive semantic roles.

4.4.2.2.2 *Piel* in Lev 17–26

Morphological causatives are constructions marked by a morphological process having applied to the verb by which an external causer is added to the clause. Accordingly, to discern whether a verb in *Piel* forms a morphological causative, we can test for transitivity increase between its *Qal* stem formation and its *Piel* stem formation. On this basis, we can examine whether a verbal root occurring in both *Qal* and *Piel* forms a morphological causative in *Piel*, or whether the relationship between *Qal* and *Piel* should be construed differently.

Accordingly, the *Piel* verbs in H were analyzed for transitivity alternation similar to the *Hiphil* verbs documented above. In total, nine different verbs occur in *Piel* in those chapters, and all attestations of these verbs in *Qal* and *Piel* have been collected from the entire CBH corpus, resulting in a dataset comprising 590 clauses, that is, 39.81% of all relevant cases.[196] Since the number of roots under consideration is small, the remaining verbs from the larger corpus have been included in the graph for comparison (Figure 4.7). The syntactic frames have been recorded for each clause (intransitive, transitive, ditransitive), and the alternation ratios between *Qal* frames and *Piel* frames were computed for each verb. The verbs displayed in the graph exhibit a combined alternation ratio towards

[196] The relevant cases are constituted by all verbs in the CBH corpus attested at least five times in both *Qal* and *Piel*:1,482 cases. Only verbs in simple predicate phrases and predicates with object/subject suffixes are included. Hence, participles are not included, and some *Piel* cases will inevitably be missing for that reason.

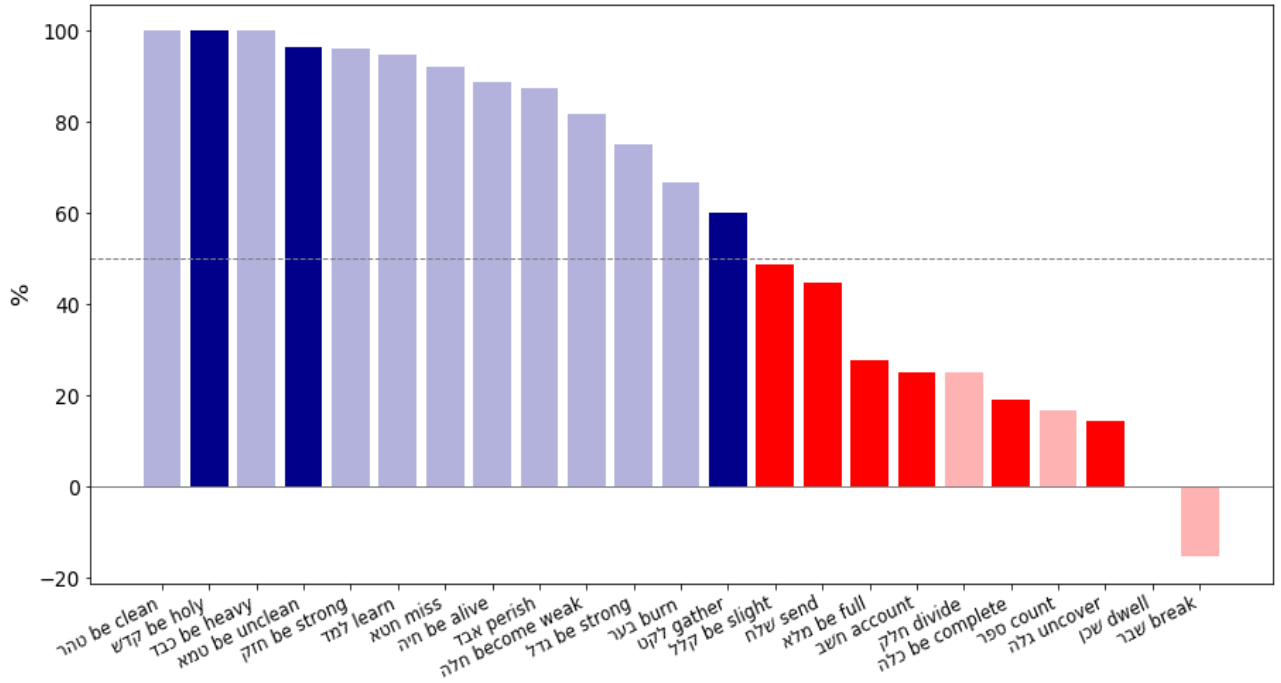

Figure 4.7 Transitivity alternation ratios for verbs in *Qal* and *Piel*. Verbs not occurring in Lev 17–26 are less opaque

higher transitivity of 63.4%; hence, slightly smaller than that of *Hiphil* (70.97%). As shown in Figure 4.7, the verbs קדשׁ 'be holy' and טמא 'be unclean' offer the most convincing examples with alternation ratios at, or close to, 100%. In terms of alternation ratio, these verbs are similar to verbs such as טהר 'be clean', כבד 'be heavy', חזק 'be strong', למד 'learn', and חטא 'miss'. In what follows, each case from Lev 17–26 will be explored in detail in order to inquire 1) whether the transitivity hypothesis holds; and 2) how the verbs can be conceptualized with RRG logical structures.

קדשׁ 'be holy'

קדשׁ QA 'be holy' most frequently denotes a change of state from profane to holy. In fact, this change may often be punctual, as illustrated in (4.23a). The lexical root also occurs in *Piel* and *Hiphil* with different meanings. In *Piel* there are two dominant uses. Firstly, *Piel* is used in a factitive sense, that is, an external causer causes the undergoer to enter a state of holiness (4.23b). This event is hardly punctual but requires a strict ritual procedure within an incremental process of sanctification. A fitting logical structure for this type of event is the causative accomplishment. Secondly, *Piel* is often used in an estimative sense, that is, an actor does not cause a process of sanctification but merely acknowledges that the undergoer is already holy. The estimative is a subset of the declarative and may also be labelled a 'psychological/linguistic' factitive (cf. Waltke and O'Connor 1990, §24.2f). In RRG the declarative may be translated 'propositional attitude' which is a two-argument stative with a judger

and a judgment (4.23c). The factitive and the declarative are thus given quite different logical structures, and the arguments are ascribed different semantic roles. Only the factitive involves an external causer. Finally, the root also appears in *Hiphil* (4.23d). Like the factitive *Piel*, *Hiphil* adds an external causer. However, there appears to be an important difference between those two senses. The *Hiphil* sense does not so much indicate a ritual *procedure* but rather a ritual *transfer* of an entity from the profane to the holy sphere (cf. Jenni 1968, 61). This interpretation is underscored by the frequent appearance of the complement לַיהוה 'to YHWH' (or לִי 'to me') by which the recipient of the ritual transfer is marked (H.-P. Müller 1984, 592).[197] Moreover, in Lev 27 *Hiphil* is used interchangeably with נתן 'give' (27:9).[198] If this interpretation is correct, the *Piel* and *Hiphil* stems of קדשׁ 'be holy' both involve a causer but in two different ways. In the former stem, the undergoer of the causation is a patient undergoing a process of becoming holy. With *Hiphil*, the undersubject is not simply a patient, coming into a state-of-being, but a recipient who comes into possession of the entity ritually transferred.[199] This difference is important, because it suggests that *Piel* and *Hiphil* subcategorize for different semantic roles.

(4.23) a. כָּל־הַנֹּגֵעַ בַּמִּזְבֵּחַ יִקְדָּשׁ

kol- Ø= ha- Ø- Ø- nnōgēaʿ- Ø ba- Ø- mmizbēaḥ- Ø
whole- SG.CS= CLM- PTC- QA- touch- M.SG P- ART- altar- SG.AB
'Everyone who touches the altar…

yi- Ø- qdāš- Ø
IMPF- QA- holy- 3.M.SG
… becomes holy' (Ex 29:37).
INGR **holy′** (everyone touching the altar)

b. כִּי אֲנִי יהוה מְקַדְּשׁוֹ

kî ʾanî yʰwāʰ mᵊ- Ø- qaddᵊšô- Ø- w
CLM PRON YHWH PTC- PI- holy- M.SG- 3.M.SG
'Because I am YHWH who sanctifies him' (Lev 21:15).
[**do′** (I, Ø)] CAUSE [PROC **holy′** (him) & INGR **holy′** (him)]

[197] *Piel* is also used once with this meaning (Exod 13:2).

[198] "anything which one may give (נתן QA) to YHWH shall be holy" (Lev 27:9). Similar expressions are made with קדשׁ HI 'holy' in Lev 27, e.g., "a man, if he consecrates (קדשׁ HI) his house to YHWH" (27:14; cf. vv. 16, 22). Both terms depict the transfer of an entity to YHWH and can therefore be used interchangeably in this respect.

[199] For the semantic difference between 'patient' and 'recipient', cf. §4.5.

c. וְקִדַּשְׁתּוֹ
wᵊ- Ø- Ø- qiddaš- t- ô
CLM- SEQU- PI- consecrate- 2.M.SG- 3.M.SG
'And you shall consider him holy' (Lev 21:8).
consider′ (you, **holy′** (him))

d. אֲשֶׁר יַקְדִּישׁוּ בְנֵי־יִשְׂרָאֵל לַיהוה
ʔᵃšer ya- Ø- qdîš- û vᵊn- ê= yiśrāʔēl la- yhwāʰ
CLM IMPF- HI- holy- 3.M.PL son- M.PL.CS= Israel P- YHWH
'… [the holy donations] which the sons of Israel sanctify to YHWH' (Lev 22:3).
[**do′** (Israelites, Ø)] CAUSE [BECOME **have′** (YHWH, holy donations)]

טמא 'be unclean'

טמא QA 'be unclean' refers to a state of ritual impurity (4.24a). In *Piel* the verb is factitive in that an external causer causes an undergoer to become ritually impure (4.24b). In contrast to the ritual process of sanctification as expressed by קדשׁ PI 'be holy', there is no evidence that the causation of becoming unclean is incremental in nature. A person or object cannot be more or less impure. Rather, even the slightest exposure to impurity requires a full cleansing ritual; hence, the causation of impurity should probably be understood as a punctual event. If this interpretation is accepted, the logical structure would be causative achievement [**do′** (x, Ø)] CAUSE [INGR **unclean′** (y)]. Finally, the verbal root in *Piel* is also frequently used in a declarative sense, that is, the unclean state of an entity is acknowledged and declared by the actor (e.g., Lev 13:3).

(4.24) a. וְטָמֵא עַד־הָעֶרֶב
wᵊ- Ø- Ø- ṭāmēʔ- Ø ʿad= hā- ʿerev- Ø
CLM- SEQU- QA- unclean- 3.M.SG P= ART- evening- SG.AB
'He is unclean until evening' (Lev 17:15).

b. וְלֹא יְטַמְּאוּ אֶת־מַחֲנֵיהֶם
wᵊ- lōʔ yᵊ- Ø- ṭammᵊʔ- û ʔet= maḥᵃnê- Ø- hem
CLM- NEG IMPF- PI- defile- 3.M.PL P= camp- SG.CS- 3.M.PL
'They may not defile their camp' (Num 5:3).

לקט 'gather'

לקט 'gather' has a small tendency towards higher transitivity in *Piel* (60%). However, the meaning of the verb is the same in both stems, namely 'to gather'. Beckman (2015, 198) notes that the verb belongs to a group of verbs for which there is a tendency towards a plural object (grammatically and semantically) in *Piel* in contrast to *Qal* which prefers singular objects. According to Beckman, then,

this tendency, albeit modest, supports a semantic transitivity hypothesis of *Piel* rather than the classical factitive interpretation. One wonders, however, why the writer of Gen 31:46 chose the *Qal* form when the object is clearly plural (4.25a). Jenni (1968, 188–89) explains the difference between *Qal* and *Piel* by pointing to the definiteness of the object. In *Qal* the object is less definite, e.g., "stones" in (4.25a), while the object in *Piel* is usually well defined, e.g., "the leftovers" in (4.25b), cf. Lev 23:2, or "the grapes of your vineyard" (Lev 19:10). Thus, *Piel* appears to be more resultative. To be sure, resultatives are also associated with high semantic transitivity. A logical structure may capture the resultative sense by adding the complete removal of the object gathered to the causative accomplishment: [**do′** (x, Ø)] CAUSE [BECOME **have′** (x, y) & INGR NOT **be-at′** (z, y)].

(4.25) a. וַיֹּאמֶר יַעֲקֹב לְאֶחָיו לִקְטוּ אֲבָנִים

wa- yyō- Ø- ʔmer- Ø ya^{ʕa}qōv l^{ə}- ʔeḥ- ā^{y}- w
CLM- NARR- QA- say- 3.M.SG Jacob P- brother- M.PL.CS- 3.M.SG
'Jacob told his fellows…

Ø- Ø- liqṭ- û ʔ^{a}vān- îm
IMP- QA- gather- 2.M.PL stone- M.PL.AB
… to gather stones' (Gen 31:46).

b. וְלֶקֶט קְצִירְךָ לֹא תְלַקֵּט

w^{ə}- leqeṭ- Ø qʔ^{ə}ṣîr- Ø- xā lō^{ʔ} t^{ə}- Ø- laqqēṭ- Ø
CLM- gleaning- SG.CS harvest- SG.CS- 2.M.SG NEG IMPF- PI- gather- 2.M.SG
'You may not gather the leftovers of your harvest' (Lev 19:9).

Piel verbs with <50% transitivity alternation scores

For the remaining *Piel* verbs with *Qal* equivalents, the transitivity alternation ratios are below 50% which means that the verbs are not likely to form morphological causatives in *Piel*.

קלל 'be slight'

קלל 'be slight' has an alternation ratio slightly below the 50% threshold (49%).The root is used in *Qal* to denote a stative situation, 'be small' or 'be insignificant', e.g., "be insignificant in her eyes" (Gen 16:5). In *Piel*, the verb is used exclusively as a declarative, that is, to declare someone small, or to curse someone (Gen 19:14) (Köhler et al. 1994, קלל; Jenni 1968, 41). Beckman (2015, 100), however, argues that eight instances of קלל in *Piel* require a process interpretation rather than a factitive/declarative interpretation. Two of these cases are found in Leviticus (24:14, 23).[200] In both cases,

[200] The remaining cases are Exod 21:17; 1 Sam 3:13; 2 Sam 16:5, 7; Ps 62:5; Eccl 7:21.

the verb is a nominal participle referring to the ‘one cursing’ (4.26a). Beckman argues that these examples focus on the action and not the affected undergoer, as would be expected for a factitive interpretation. In other words, according to Beckman, a factitive reading of קלל PI requires at least an affected undergoer because the undergoer is the ‘one deemed insignificant’. It should be noted, however, that of the nine attestations of the קלל PI participle in the HB, six take a direct object (e.g., 4.26b).[201] In these cases, we should certainly understand the *Piel* as a nominal declarative. In the two cases of Lev 24, the object is probably implied because the undergoer of the curse, YHWH, is present in the context (24:11, 15).

(4.26) a. הוֹצֵא אֶת־הַמְקַלֵּל

Ø- hô- ṣē^{ʔ}- Ø ^{ʔ}et= ha- m- Ø- qallēl- Ø

IMP- HI- go.out- 2.M.SG P= ART- PTC- PI- be.slight- M.SG.AB

‘Bring the curser out [of the camp]’ (Lev 24:14).

b. וּמְקַלֵּל אָבִיו וְאִמּוֹ

û- m- Ø- qallēl- Ø ^{ʔ}āvî- Ø- w w^{ə}- ^{ʔ}imm- Ø- ô

CLM- PTC- PI- be.slight- M.SG.AB father- SG.CS- 3.M.SG CR- mother- SG.CS- 3.M.SG

‘The one cursing his father or mother [shall surely be put to death]’ (Exod 21:17).

שׁלח ‘send’

שׁלח ‘send’ has almost the same meaning in both *Qal* and *Piel*. Jenni (1968, 193–96), however, has suggested a distinction along the lines of process and result. While *Qal* is frequently employed to express ‘stretching’ (4.27a), *Piel* is used in contexts where an undergoer is sent away (4.27b). Thus, *Piel* is distinctive of separation as the result of the event. An RRG logical structure captures this distinction by adding a punctual endpoint to the representation of the *Piel* sense.

(4.27) a. וַיִּשְׁלַח אַבְרָהָם אֶת־יָדוֹ

wa- yyi- Ø- šlaḥ- Ø ^{ʔ}avrāhām ^{ʔ}et= yād- Ø- ô

CLM- NARR- QA- send- 3.M.SG Abraham P= hand- SG.CS- 3.M.SG

‘And Abraham stretched out his hand [and took the knife]’ (Gen 22:10).

[**do′** (x, Ø)] CAUSE [**do′** (y, [**move.away.from.ref.point′** (y)])]

b. וַיְשַׁלַּח אֶת־הַיּוֹנָה

wa- y^{ə}- Ø- šallaḥ- Ø ^{ʔ}et= ha- yyôn- ā^{h}

CLM- NARR- PI- send- 3.M.SG P= ART- dove- F.SG.AB

‘And he sent out the dove’ (Gen 8:12).

[**do′** (x, Ø)] CAUSE [**do′** (y, [**move.away.from.ref.point′** (y)]) & INGR NOT **be-at′** (z, y)]

[201] Cf. also Gen 12:3; 2 Sam 16:7; Jer 15:10; Prov 20:20; Eccl 7:21.

מלא ‘be full’

מלא ‘be full’ should be considered a factitive despite its low alternation score (28%). The reason for the low alternation ratio is probably that the entity ‘being/becoming full’ is typically annotated as the direct object of the verb in *Qal* (4.28). In *Piel* the object to be filled is likewise marked as the direct object. Therefore, the difference between ‘to fill…’ (factitive) and ‘be full of…’ (stative) is not easily predicted from syntax, because both constructions involve a syntactic object.

(4.28) וּמָלְאָה הָאָרֶץ זִמָּה

û-	Ø-	Ø-	mālʾ-	āʰ	hā-	ʾāreṣ-	Ø	zimm-	āʰ
CLM-	SEQU-	QA-	be.full-	3.F.SG	ART-	land-	SG.AB	loose.conduct-	F.SG.AB

‘and the land became full of loose conduct’ (Lev 19:29).

חשׁב ‘account’

חשׁב ‘account’ has a transitivity alternation score of 25% and occurs three times in Lev 17–26 (exclusively in *Piel*), cf. (4.29a). While *Piel* is employed to express the mental activity of calculating, *Qal* has a less technical meaning, e.g., ‘intend/count’ (4.29b). **חשׁב** PI does neither form a morphological factitive nor a resultative. Given the fact that **חשׁב** PI exclusively denotes calculation, we might consider this construction lexicalized for this particular meaning.

(4.29) a. וְחִשַּׁב אֶת־שְׁנֵי מִמְכָּרוֹ

wᵊ-	Ø-	Ø-	ḥiššav-	Ø	ʾet=	šᵊn-	ê	mimkār-	Ø-	ô
CLM-	SEQU-	PI-	account-	3.M.SG	P=	year-	M.PL.CS	sale-	SG.CS-	3.M.SG

‘And he shall count the years since his sale’ (Lev 25:27, cf. 25:50, 52).
do′ (x, [**count′** (x, y)])

b. וַיַּחְשְׁבֶהָ לוֹ צְדָקָה

wa-	yya-	Ø-	ḥšve-	Ø-	hā	ll-	ô	ṣᵊdāq-	āʰ
CLM-	NARR-	QA-	account-	3.M.SG-	3.F.SG	P-	3.M.SG	righteousness-	F.SG.AB

‘And he counted it to him as righteousness’ (Gen 15:6).
consider′ (x, y)

כלה ‘be complete’

This verb occurs four times in Lev 17–26 (exclusively in *Piel*) and carries the meaning of ‘completing’ an undergoer, that is, completely destroying an undergoer (4.30a) or completely harvesting a field (Lev 19:9). In *Qal* the verb can be used to denote a water-skin that has been ‘finished’ or emptied (Gen 21:15). It also refers to the accomplishment of a task (4.30b). Both *Piel* and *Qal* focus on the

result of an event, either termination (4.30a) or completion (4.30b), rather than the process. *Piel* frequently involves an external causer that brings about the termination or completion of an entity. Therefore, in one of its uses, at least, כלה PI may be regarded as a factitive correspondent to *Qal*.

(4.30) a. וְלֹא־גְעַלְתִּים לְכַלֹּתָם

wᵊ- lōʾ= Ø- Ø- gᵊʿal- tî- m lᵊ- Ø- Ø- xallōt- ām
CLM- NEG= PERF- QA- abhor- 1.SG- 3.M.PL P- INF- PI- be.complete- 3.M.PL
'And I will not abhor them to terminate them' (Lev 26:44).

b. כָּלָה הַבַּיִת

Ø- Ø- kālāʰ- Ø ha- bayit- Ø
PERF- QA- be.complete- 3.M.SG ART- house- SG.AB
'[And in the eleventh year, in the month of Bul, which is the eighth month,] he completed the house [according to all his words and all his judgments]' (1 Kings 6:38).[202]

גלה 'uncover'

Finally, with a transitivity alternation score of 14%, גלה 'uncover' generally has two meanings in *Qal*. Firstly, the verb frequently denotes exile (e.g., 2 Kgs 25:21), an activity. Secondly, the verb often denotes revelation, literally "open [the ears]", as in (4.31a). These two meanings cannot easily be reconciled, so we should accept two different meanings in *Qal*. In *Piel*, the verb is almost exclusively used in the anti-incestual laws of Lev 18 and 20 as a prohibition against uncovering, or exposing, the 'nakedness' of close relatives (4.31b).[203] In one case, the verb in *Piel* denotes revelation (4.31c).

(4.31) a. וַיהוה גָּלָה אֶת־אֹזֶן שְׁמוּאֵל

wa- yhwāʰ Ø- Ø- gālāʰ- Ø ʾet= ʾōzen- Ø šᵊmûʾēl
CLM- YHWH PERF- QA- uncover- 3.M.SG P= ear- SG.CS Samuel
'And YHWH opened Samuel's ear' (1 Sam 9:15).

b. לֹא תְגַלֵּה עֶרְוָתָהּ

lōʾ tᵊ- Ø- galleʰ- Ø ʿerw- āt- āh
NEG IMPF- PI- uncover- 2.M.SG nakedness- F.SG.CS- 3.F.SG
'You may not expose her nakedness' (Lev 18:7).

[202] In this sentence, בַּיִת 'house' is translated as the object, following the ETCBC-database annotation. The masculine predicate then refers to Solomon "completing" the house. It is also possible, however, to see the house as the subject of the clause, since בַּיִת can take masculine predicates (e.g., 1 Kgs 7:8). This change would significantly affect the transitivity alternation ratio, since this is the only case where כלה QA occurs in a transitive frame.

[203] עֶרְוָה 'nakedness' is a euphemism for copulation (Milgrom 2000, 1534).

c. וַיְגַל יהוה אֶת־עֵינֵי בִלְעָם
wa- yᵊ- Ø- gal- Ø yᵊhwāh ʾet= ʿên- ê vilʿām
CLM- NARR- PI- uncover- 3.M.SG YHWH P= eye- DU.CS Balaam
'And YHWH opened Balaam's eyes' (Num 22:31).

As illustrated by the examples, גלה 'uncover' can have a factitive meaning in both *Qal* and *Piel*, that is, to cause something to become open, or to expose/uncover something. Although Jenni (1968, 202) argues for a resultative meaning in *Piel* versus a process meaning in *Qal*, the examples in (4.31a) and (4.31c) do not support such a strict distinction. In both cases the event is a causative accomplishment. In sum, גלה PI 'uncover' should not be considered a morphological causative.

4.4.2.2.3 Summary

In conclusion, three verbs were hypothesized to form morphological causatives in *Piel* due to their alternation ratios of more than 50%. Among these verbs, there was one false positive (לקט 'gather') because the verb was found to be causative in both *Qal* and *Piel*. Nevertheless, all three verbs could be explained along the lines of factivity, that is, a state-of-being caused by an external causer. The remaining verbs under consideration were hypothesized not to form morphological causatives in *Piel* because their alternation ratios were lower than 50%. Of the six verbs considered, two were concluded to be false negatives: כלה PI 'be complete' and מלא PI 'be full' were both found to form morphological causatives. The remaining verbs supported the hypothesis that verbs with a low, or negative, transitivity alternation ratio (below 50%) are not likely to form morphological causatives in *Piel*.

In sum, there seems to be a correlation between syntactic transitivity alternation and the function of *Piel* as a causative morphological derivation of its non-causative *Qal* equivalent. Yet, the statistical basis is not strong, so this conclusion would have to be validated on a larger scale.

4.4.3 Lexical causatives in Biblical Hebrew

Lexical causatives are inherently causative verbs not morphologically derivable from a non-causative equivalent. For that reason, lexical causatives are also more complicated to identify than morphological causatives which, as we have seen above, can be predicted to some extent by their transitivity alternation ratio. In RRG a paraphrasing test is often employed to identify lexical causatives (Van Valin and LaPolla 1997, 97):

(4.32) The dog frightens the boy → The dog caused the boy to be afraid

Since "The dog caused the boy to be afraid" is an appropriate paraphrase of "The dog frightens the boy," the verb in question can reasonably be considered a lexical causative. The test is constrained

by the requirement that the paraphrase is only allowed to contain as many NPs as the original sentence in order to rule out false paraphrases, e.g., "*Mary caused herself to run" as a paraphrase of "Mary ran." Importantly, what follows from the test is that intransitive verbs are ruled out by default because causatives require at least two participants. As for the concrete case of Lev 17–26, of the 181 different verbs, 161 verbs are potentially causative, 27 of which form morphological causatives.[204] We can thus exclude 20 verbs.[205] The transitivity constraint is obviously only a partial solution, but it is a valid starting point because it filters out intransitive and, hence, non-causative verbs.

While the transitivity constraint limits the number of possible lexical causatives, the paraphrasing test is difficult to apply more concretely on the Biblical Hebrew cases. The corpus does not contain syntactic causatives equivalent to lexical causatives, as could be found in an English corpus, e.g., "cause to be afraid" equivalent to "frighten," cf. (4.32). Moreover, it is methodologically flawed to hypothesize paraphrases of Biblical verbs because the paraphrase would most likely merely reflect verb patterns in the target language (e.g., English) rather than in the source language. The issue is the same as with all other tests for verbal *Aktionsart* (cf. §4.2.3). If a given form does not exist in the corpus, how can it be analyzed?

The most valid approach is to analyze the parameters actually attested in the corpus. The most important parameters in terms of transitive clauses are the parameters of the participants involved, that is, the actor and the undergoer. In what follows, I shall argue that semantic analysis of the transitive frames provides valid criteria for distinguishing lexical causatives.

4.4.3.1 Causation and semantic transitivity

A transitive construction is a construction with a verb and two arguments. Semantically speaking, the transitive construction expresses an exchange, or transfer, from an agent to a patient (Hopper and Thompson 1980, 251). The sort of exchange may be one of communication ("John spoke to Mary"),

[204] The transitivity constraint is found by extracting all verbs from the CBH corpus and analyzing the syntactic frames in which they occur. If a verb does only occur in intransitive frames (with an explicit or implicit subject), it is considered intransitive. If the verb also occurs in transitive or ditransitive frames, it is considered (di)transitive. Obviously, an otherwise intransitive verb could potentially be transitive if the rest of the Hebrew Bible was included in the analysis. In any case, the transitivity analysis is only hypothetical insofar as we cannot expect all possible verbal patterns to be attested in the corpus. An inherently transitive verb may only occur in intransitive frames in the selected corpus and thereby falsely be considered intransitive.

[205] The excluded intransitive verbs are היה 'be', גור 'dwell', כחשׁ 'grow lean', שׁקר 'do falsely', לין 'spend the night', חרף 'spend autumn', חפשׁ 'be free', סלח 'forgive', נחשׁ 'divine', קוץ 'loath', רמשׂ 'creep', צרע 'have skin-disease', נצה 'fight', פרשׁ 'explain', מוך 'grow poor', מוט 'totter', חוה 'bow down', אבה 'want', כשׁל 'stumble', and מקק 'putrefy'.

translocation (“John moved the wheelbarrow”), creation (“John wrote a song”), among others. The exchange is not always equally efficient, as may be intuitively sensed from the examples below:

(4.33) a. I am YHWH who brought you out of Egypt (Lev 19:36).

b. You shall love your neighbor as yourself (Lev 19:18).

The exchange in (4.33b) is much less concrete than in (4.33a), where the semantic undergoer is moved from one location to another. In (4.33b) the undergoer is not moved and does hardly know of the ‘exchange’. Based on this intuitive notion of varying transitive ‘effectiveness’, Hopper and Thompson (1980) presented ten components that constitute what they call ‘the transitivity hypothesis’. Each of the components involves different degrees of intensity or effectiveness, as shown in Table 4.9. The parameters concern both the verb (kinesis, aspect, punctuality, mode) and the participants involved (volitionality, agency, affectedness, individuation), as well as the sentence as a whole (participants, affirmation). A highly transitive sentence has many components of high intensity while a less transitive sentence has more components of low intensity. Importantly for the present argument, the transitivity hypothesis also relates to causation. As Hopper and Thompson explain, “causatives are highly Transitive constructions: they must involve at least two participants, one of which is an initiator, and the other of which is totally affected and highly individuated” (1980, 264). Curiously, Hopper and Thompson do not list ‘initiator’ as one of the components of transitivity, but probably ‘agency’ is intended to capture the initiator-role: The causer must be high in agency in order to be able to cause the event. The undergoer, on the other hand, is defined as a participant totally affected and highly individuated.[206]

Table 4.9 The Hopper-Thompson model of semantic transitivity (Hopper and Thompson 1980, 252)

	High intensity/effectiveness	**Low**
A. Participants	two or more participants	one participant
B. Kinesis	action	non-action
C. Aspect	telic	atelic
D. Punctuality	punctual	non-punctual
E. Volitionality	volitional	non-volitional
F. Affirmation	affirmative	negative
G. Mode	realis	irrealis
H. Agency	agent high in potency	agent low in potency
I. Affectedness of object	totally affected	not affected
J. Individuation of object	highly individuated	non-individuated

[206] Although Hopper and Thompson (1980, 253) distinguish between affectedness and individuation, in reality the features overlap. According to them, an entity is more completely affected if it is definite, that is, more individuated.

Recently, Næss (2007) has readdressed the transitivity hypothesis in her *Prototypical Transitivity*, the result of which is a somewhat simpler model that aims to explain the most fundamental criteria for distinguishing agent and patient. Recall her definition, "A prototypical transitive clause is one where the two participants are maximally semantically distinct in terms of their roles in the event described by the clause" (2007, 30; cf. §4.2.2). The two maximally distinct participants are the prototypical agent and the prototypical patient, and the distinction can be explained in terms of instigation, volition, and affectedness:

Table 4.10 The Næss model of semantic transitivity (Næss 2007, 44)

	Agent	**Patient**
Instigation	+	–
Volition	+	–
Affectedness	–	+

In short, a prototypical transitive sentence is a sentence with an agent, who instigates and intends the event without being affected by the event, and a patient, which is totally affected by the event. For the sake of simplicity, the parameters are binary (+/–), although she readily admits that the parameters are actually continuous (2007, 44). Positive values therefore refer to high values and negative values to low values. While the majority of Hopper and Thompson's ten components are left out, some of them are at least implicated by Næss' model. For example, while Næss does not include the kinetic component, her instigation parameter only applies to activities, and kinesis is thus implied. Moreover, when analyzing concrete sentences, Næss applies the affirmation criteria, because negation cancels instigation and affectedness, that is, a negated event does not happen, so the actor does not instigate it (despite his/her intention), and the undergoer is not affected. The simplicity of Næss' model, its explanatory power, and the fact that both participants are evaluated on the same criteria have made it popular. For Biblical Hebrew the model has been applied by Beckman (2015) in his analysis of the *Piel* stem (cf. §4.4.2.2.1).

It is also my contention that semantic transitivity is a valuable framework for scrutinizing Biblical Hebrew causatives. Surely, the model does not capture all fine-grained aspects of causative events. The model, however, serves as a useful starting point for distinguishing causatives and non-causatives which is the primary aim of this study. In light of Hopper and Thompson's early definition of causation, Næss' "prototypical transitive" construction may correspond well with causation: if one participant instigates the event, and the other participant is totally affected, then the construction may be regarded as a causative construction. This hypothesis will be tested on the H data.

It should be noted, however, that simplicity is often at the cost of accuracy. This is also the case with Næss' model. For example, although volition is presented as a category relating to both participants, in reality, to evaluate whether a participant is volitional different aspects of volition (intentionality and benefaction) must be considered. Moreover, the binary values in the model come at the cost of evaluating different degrees of each of the three parameters. In particular, the affectedness parameter is more fine-grained than it appears to be in the model. Therefore, in what follows, each parameter will be introduced and evaluated on the Hebrew data.

4.4.3.2 Instigation

The first parameter is 'instigation' which fundamentally concerns the bringing about of an event. In Næss' terms,

> the property of instigating or causing an event is central to our whole understanding of what an agent is; a simplistic description of a transitive event might refer to it as an act where one participant 'does something to' another. (Næss 2007, 42)

Instigation implies Hopper and Thompson's (1980, 252) 'kinesis' which regards the distinction between states and activities. If a situation is stative, there is no exchange between the two participants and, by implication, no instigating actor. The correlation with kinesis is important because it reveals how instigation relates to the semantics of the verb: Activities have an instigating actor while states do not.[207] Instigation is not restricted to animate or human agents. Physical forces do also instigate events (Næss 2007, 93). Even physical objects may instigate events if they can be reasonably interpreted as instruments. As an instrument, the physical object plays a dual role in that it causes an event to happen, but only by being manipulated itself by an independent agent. Thus, an instrument is both an instigator but is also affected by an independent agent.[208] Næss describes the instrument as having a "mediating role" in the event, which explains why the instrument can be realized as both actor and undergoer (2007, 97).

In RRG, instigation is captured by **do′** which distinguishes activities from states. In other words, activities have instigating actors in contrast to states. Inherently stative verbs, however, may have their stativity cancelled due to pragmatic implicature (cf. §4.2.3). There are 24 such cases in Lev 17–26, including the famous command in (4.34a).

[207] Cf. also Creason who seems to capture the parameter of instigation with his notion of volition and claims that "stativity and volitionality are incompatible" (1995, 134).

[208] For affectedness, cf. §4.4.3.4.

(4.34) a. וְאָהַבְתָּ לְרֵעֲךָ כָּמוֹךָ

wᵊ- Ø- Ø- ʔāhav- tā lᵊ- rēʕᵃ- Ø- xā kāmô- xā

CLM- SEQU- QA- love- 2.M.SG P- fellow- SG.CS- 2.M.SG P- 2.M.SG

'You shall love your fellow as yourself' (Lev 19:18, cf. 19:34).

b. וְאִם־בְּאֵלֶּה לֹא תִוָּסְרוּ לִי

wᵊ- ʔim= bᵊ- ʔēlleʰ lōʔ ti- Ø- wwāsr- û l- î

CLM- CR= P- PRON NEG IMPF- NI- admonish- 2.M.PL P- 1.SG

'And if you will not let yourselves be admonished by me' (Lev 26:23).

Verbs in the Hebrew passive stems, *Niphal* and *Pual*, may sometimes be used as reflexives or reciprocals. Seven such cases were identified, including the one in (4.34b).[209] This particular case is curious because the agent of admonishment is clearly the oblique object ("me", i.e., YHWH). The addressees are urged to let themselves be admonished, although the exhortation is only indirect insofar as it is not phrased as a command but as a warning. Thus, in this particular case, there seems to be a shared responsibility for the admonishment: YHWH is the one who chastises the people, but the people themselves are given the blame for not allowing the admonishment.

Like simple activities, causative events are usually represented with **do′** (x, Ø) in RRG with reference to an unspecified action causing another event. However, causation may also involve non-instigating actors. In those cases, the event happens because the actor allows it without further participation in the event, or even by accident. As Elke Diedrichsen explains, non-intervention "may be something that happens by not paying enough attention. It may also happen on purpose, in which case there is a component of 'allowing' in the statement, if the causee argument is animate" (2015, 55). עזב QA 'leave' may be one Hebrew example of purposeful non-intervention:[210]

(4.35) לֶעָנִי וְלַגֵּר תַּעֲזֹב אֹתָם

le- Ø- ʕānî- Ø wᵊ- la- Ø- gēr- Ø ta- Ø- ʕᵃzōv- Ø ʔōt- ām

P- ART- poor- SG.AB CR- P- ART- sojourner- SG.AB IMPF- QA- leave- 2.M.SG P- 3.M.PL

'You shall leave them to the poor and the sojourner' (Lev 19:10; 23:22).

[**do′** (x, Ø)] LET [BECOME **have′** (poor and the sojourner, them)]

In (4.35) the addressees are ordered to leave the harvest for the poor and the sojourner; hence, the leftovers of the harvest are left in the fields on purpose. Diedrichsen, in her treatment of the German causative *lassen*, offers an analysis of the sentence "Hans ließ mir den Mantel hängen," which is

[209] The remaining reflexive/reciprocal verbs are שׁבע NI 'swear' (19:12), ענה PU 'be lowly' (23:29), נצה NI 'fight' (24:10), גאל NI 'redeem' (25:49), חוה HSHT 'bow down' (26:1), and אסף NI 'gather' (26:25).

[210] פרע QA 'let loose' (21:10) is another example. The priests are commanded not to let their hair hang loose.

similar to the Hebrew sentence under consideration in that it also includes a benefactor (2015, 91).[211] In her analysis, she marks the agent for control and authority because the agent has control over the situation and performs it for the benefit of another (2015, 93). Therefore, although the presence of an instigating agent is required for 'real' causative events, more subtle causative events are not captured by the ± instigation feature. A more fine-grained concept of the involvement of the causer is needed, including features such as control, authority, and order/permission/direct causation, as proposed by Diedrichsen. Talmy's (2000) concept of 'impingement' is also helpful to distinguish real causative events with direct, physical impingement from indirect causative events with no impingement.

4.4.3.3 Volition

Unlike instigation, which is the primary parameter for distinguishing actor and undergoer, volition is applicable to both participants. Volition normally pertains only to human (and divine) beings because they are the only ones having the cognitive capacity of willing an event. Because Næss uses one label, one might be tempted to treat volition as a uniform parameter. Dixon (2000, 62), however, distinguishes between volition featured by the actor and volition pertaining to the undergoer. While the latter is called 'volition', the former is called 'intention', emphasizing that only actors can intend an activity. Volition, thus, is multifaceted, and I will therefore discuss it with respect to both actor and undergoer.

An actor is the instigator of an event. If the actor is human or divine, it is capable of volitionality. Physical forces, on the other hand, do not have the capacity of willing an event and are not marked for volition. With respect to Talmy's differentiation of causative events, in most cases a causing actor (human/divine) would also be volitional. Sometimes, however, an actor may accidently instigate the event, perhaps due to clumsiness or neglection. Or perhaps the event happens has an unexpected side-effect of a previous event. The latter option may capture the meaning of Lev 18:30:

(4.36) וְלֹא תִטַּמְּאוּ בָּהֶם

wᵊ-	lō˒	ti-	Ø-	ṭṭammᵊ˒-	û	b-	āhem
CLM-	NEG	IMPF-	HIT-	be.unclean-	2.M.PL	P-	3.M.PL

'[And you shall keep my obligations so that you never do any of those abominable customs that were practiced before you], so that you do not make yourselves unclean by them' (Lev 18:30).

In (4.36), to cause oneself to be unclean (a reflexive factitive) seems to be an unintentional side-effect of practicing those abominable customs unfolded in the chapter. By committing those customs, the

[211] The two sentences differ in that the Hebrew example is phrased as a command. It may therefore be construed as an event of enablement rather than simply non-intervention; hence, there is a higher degree of instigation involved.

actor thus instigates an event of becoming unclean, but probably unintentionally. Thus, while most causative events involve an intentional causer, some do not (cf. Diedrichsen 2015, 93).

As for the undergoer, volition concerns involvement. While an undergoer cannot intend an event, it can nevertheless be volitionally involved in the event in various degrees. Due to their mental and sensory capacities, human/divine participants are involved in experiencer events (Næss 2007, 41). Thus, a participant may be volitionally involved in an experiencer event, e.g., "I heard a sound", even though the participant does not intend the event. This distinction is captured in RRG by two different logical structures. The **do′** in (4.37b) marks the event as one of directed, intentional perception in contrast to the undirected, unintentional event of perception in (4.37a):

(4.37) a. **hear′** (x, y)

b. **do′** (x, [**hear′** (x, (y))])

Undergoers can also be involved in events by filling other semantic roles. Apart from experiencer roles, participants in recipient and benefactor roles are also involved, hence volitional (Næss 2007, 90–91). Firstly, only participants with a capacity of volition can reasonably be said to possess something, and, by implication, to be recipients. Secondly, benefactors are participants who benefit from an event. By implication, only human/divine beings can normally be benefactors because they possess the cognitive capacity to estimate an event. Although an undergoer might have the capacity for volitionality, this capacity is not realized in all cases, as demonstrated in (4.38).

(4.38) a. כִּי־אִישׁ אִישׁ אֲשֶׁר יְקַלֵּל אֶת־אָבִיו וְאֶת־אִמּוֹ מוֹת יוּמָת

kî= ʔîš- Ø ʔîš- Ø ʔᵃšer yᵊ- Ø- qallēl- Ø ʔet= ʔāvî- Ø- w

CLM= man- SG.AB man- SG.AB CLM IMPF- PI- be.cursed- 3.M.SG P= father- SG.CS- 3.M.SG

'Any man who curses his father…

wᵊ- ʔet= ʔimm- Ø- ô môt y- û- māt- Ø

CR- P= mother- SG.CS- 3.M.SG ADV.die IMPF- HO- die- 3.M.SG

… or mother, he shall surely die' (Lev 20:9).

b. אֲשֶׁר־הוֹצֵאתִי אֶתְכֶם מֵאֶרֶץ מִצְרָיִם

ʔᵃšer= Ø- hô- ṣēʔ- tî ʔet- xem mē- ʔereṣ- Ø miṣrāyim

CLM= PERF- HI- go.out- 1.SG P- 2.M.PL P- land- SG.CS Egypt

'[I am YHWH your God] who brought you out of the land of Egypt' (Lev 19:36).

In (4.38a) a human being is sentenced to death. As Næss explains, as a human being, the undergoer of the death penalty is capable of being volitional, but during the event, he does not "exercise this volitionality" (2007, 40). Moreover, his role within this event is not dependent on him being

volitional. Roughly speaking, the participant would die whether he wills it or not. By contrast, in (4.38b) the undergoer benefits from the event. The translation, which is preferred by most Bible translations (e.g., New Revised Standard Version, North American Standard Version, and King James Version), suggests that the undergoers (the Israelites) are simply carried away from Egypt, whether they like it or not.[212] However, the Israelites have a personal interest in the event and benefit from it. Therefore, since the event has a positive outcome for the Israelites, we can consider them volitional.

In sum, volition is a multifaceted property and involves intention, sentience, recipience, and benefaction. In particular, intention and benefaction involve subjective interpretation of how the event was conceptualized by the author. Moreover, the examples show that the kind of volition in question is not the inherent property of which human/divine participants are capable, but rather a relational property (cf. Næss 2007, 40). Accordingly, for each potentially volitional participant, it must be determined manually whether the participant intends the event or benefits from the event.

4.4.3.4 Affectedness

Affected participants are participants "that undergo a change in posture, place, shape, state, or existential status" (Frajzyngier and Shay 2016, 144). In Næss' terms, "a patient is generally defined as the participant which in some way undergoes a change of state as a result of the event" (2007, 42). In practice, however, it has proved difficult to differentiate affectedness. John Beavers criticizes that high and low affectedness, as defined by Hopper and Thompson, "are hard to define precisely, and are usually left to intuition" (2011, 2). He offers the following examples to demonstrate the subtle distinctions in affectedness:

(4.39)
a. John ate the apple up. → Apple is completely gone.
b. John cut the apple. → Apple cut, not necessarily to a particular degree.
c. John kicked the apple → Apple impinged, not necessarily affected.
d. John touched the apple. → Apple manipulated, not necessarily impinged.

To evaluate the Hebrew data, four sub-parameters turned out to be instructive: 1) material vs. immaterial; 2) definite vs. indefinite; 3) direction of event; and 4) affected vs. effected. These sub-parameters play into determining the affectedness of the participants in the sentences below:

[212] The verbal event (**יצא** 'go out') in *Hiphil* could also be translated 'made/let you go out' to emphasize the role played by the undergoers in the event. The *Hiphil* stem does not by itself entail a specific type of causation.

(4.40) a. וְאֶת־מִצְוֹתַי תִּשְׁמְרוּ

wᵊ- ʾet= miṣw- ōt- ay ti- Ø- šmᵊr- û

CLM- P= commandment- F.PL.CS- 1.SG IMPF- QA- keep- 2.M.PL

'… and [if] you keep my commandments' (Lev 26:3).

do′ (you, [**observe′** (you, commandments)])

b. אֲשֶׁר יֹאכַל כָּל־דָּם

ʾᵃšer yō- Ø- ʾxal- Ø kol- Ø= dām- Ø

CLM IMPF- QA- eat- 3.M.SG the.whole- SG.CS= blood- SG.AB

'[Any man…] who eats any blood' (Lev 17:10).

[**do′** (man, [**eat′** (man, blood)]) ∧ PROC **consumed′** (blood)]

c. וְאָכַל אֶת־כָּל־הָעֵץ

wᵊ- Ø- Ø- ʾāxal- Ø ʾet= kol- Ø= hā- ʿēṣ- Ø

CLM- SEQU- QA- eat- 3.M.SG P= the.whole- SG.CS= ART- tree- SG.AB

'And they [lit. 'it'] shall devour all the trees' (Exod 10:5).

[**do′** (they, [**eat′** (they, trees)]) ∧ PROC **consumed′** (trees)] & INGR **consumed′** (trees)

d. וְאָפוּ עֶשֶׂר נָשִׁים לַחְמְכֶם

wᵊ- Ø- Ø- ʾāf- û ʿeśer- Ø nāš- îm laḥmᵊ- Ø- xem

CLM- SEQU- QA- bake- 3.PL ten- SG.CS woman- M.PL.AB bread- SG.CS- 2.M.PL

'And ten women shall bake your bread [in one stove]' (Lev 26:26).

[**do′** (ten women, [**bake′** (ten women, bread)]) ∧ PROC **create′** (bread)] & INGR **exist′** (bread)

In (4.40a), the undergoer ("commandments") is an immaterial, abstract entity and cannot be affected by being observed by a human being. It is therefore appropriate to construe the event as a single activity of performance. In (4.40b), by contrast, the undergoer ("any blood") is a physical entity which can be affected. In this case, however, "any blood" is indefinite and non-referential which means that it is not totally affected (cf. Pavey 2010, 124–25). The contrast is readily seen in (4.40c), where the undergoer ("all the trees") is completely consumed. In RRG logical structures, the difference is captured by adding a punctual endpoint to express the accomplishment of the event. If we consider the actors in (4.40b) and (4.40c), they would perhaps intuitively be viewed as prototypical actors that perform an event without being affected themselves. However, while eating, an actor becomes affected insofar as he/she becomes full. Put differently, it is not so much the undergoer which meters out the scope of the event, but the actor who performs the event until he/she is full (cf. Næss 2007, 56). This interpretation is supported by the observation that the phenomenon is grammaticalized in a number of languages. In a cross-linguistic study on passive participles, Martin Haspelmath (1994) showed that both agents and patients of consumption verbs, experience verbs, and verbs of wearing

may be grammatically encoded as affected.[213] Evidence is also found in Biblical Hebrew where participles are divided into active and passive participles. The passive participle can be used as either an attributive or adjective and generally refers to the coming of an entity into a state (Waltke and O'Connor 1990, §37.4). Interestingly, לבשׁ 'wear/clothe' occurs a few times as a passive participle (לָבוּשׁ QA or מְלֻבָּשִׁים PU), always referring to the actors who wear the garments (1 Sam 17:5; 1 Kgs 22:10; Ezra 3:10; 2 Chr 5:12; 18:9).[214] Thus, Biblical Hebrew adds support to the notion that people wearing clothes are affected participants. (4.40d) provides an example of a creation verb. Although one might think that the undergoer ("bread") is affected because it comes into existence, Næss (2007, 103–4) argues that, strictly speaking, the undergoer does not undergo a change of status but rather acquires a status. Put differently, there was no bread to be affected prior to the event.[215] Thus, it is important to distinguish between *affected* and *effected* undergoers.

The sentences scrutinized above illustrate the nuances of affectedness. We will now turn to sentences in which the undergoer is completely affected in order to discuss the correlation of affectedness with causation. The sentence in (4.41a) depicts a transfer of land. The actor transfers the land to the undergoer who comes into possession of that land. The land is itself an undergoer of the event and is completely affected by being transferred from one participant to another. The event is causative because the undergoer ("you") is caused to come into possession of the land. Or, put differently, an external causer is the reason, or cause, for the event to take place. Other BH transfer verbs include שׂים QA 'put', ערך QA 'arrange', לקח QA 'take', מכר QA 'sell', קנה QA 'buy', and probably נחל HIT 'take possession'.[216] The various verbs of harvest or gathering in Lev 17–26 could also be construed as

[213] Haspelmath's study concerns passive participles across languages. According to him, it is widely attested that participles "can be directed toward the patient of transitive verbs or the subject of unaccusative intransitive verbs" (1994, 157). The semantic constraint for forming a passive participle is whether the participant described by the participle can be characterized by a resultant state of the event. Therefore, the participant in question must necessarily be affected, and this is the reason that only patients are normally described by passive participles. However, a number of languages do have transitive active resultative participles, i.e., participles of active verbs describing the resulting state of the agent presumably affected by the event. These verbs include the Latin '*cenatus*' (having eaten) and '*potus*' (having drunk) but also the Hindi-Urdu '*dekh-naa*' (see), '*siikh-naa*' (learn), and '*pahan-naa*' (wear). These grammaticalizations suggest that verbs of consumption, wearing, and experiencing involve affected agents (Haspelmath 1994, 157–61).

[214] Cf. also the discussion in Van Peursen (2004, 208 n. 41).

[215] Levinson argues that an effected object is a "prototypical patient" in contrast to affected objects which are much less affected (2006, 491). However, as argued by Hopper, objects resulting from an event "cannot be said to 'undergo' the action of the verb, and therefore cannot be described as Patients" (1986, 69). Cf. also Fillmore (2003, 24–25).

[216] נחל HIT 'take possession' occurs once in H (Lev 25:46). Milgrom (2000, 2230) quotes Rashi for paraphrasing the verse "Take (them) for yourselves (for the benefit of your children)." Rashi denies a causative interpretation because the

transfer verbs, that is, causing oneself to come into possession of the produce. These verbs are בצר QA ‘gather grapes’, עלל PI ‘deal with’ (or rather, ‘pick bare’, cf. Milgrom (2000, 1627)), קצר QA ‘harvest’, and אסף QA ‘gather’.

(4.41) a. אֲשֶׁר אֲנִי נֹתֵן לָכֶם
ʔᵃšer ʔᵃnî Ø- Ø- nōtēn- Ø l- āxem
CLM PRON PTC- QA- give- M.SG P- 2.M.PL
‘[When you come into the land] which I am giving you’ (Lev 25:2).
[**do′** (I, Ø)] CAUSE [BECOME **have′** (you, land)]

b. עַם הָאָרֶץ יִרְגְּמֻהוּ בָאֶבֶן
ʿam- Ø hā- ʔāreṣ- Ø yi- Ø- rgᵊmu- Ø- hû vā- Ø- ʔāven- Ø
people- SG.CS ART- land- SG.AB IMPF- QA- stone- 3.M.PL- 3.M.SG P- ART- stone- SG.AB
‘The people of the land shall stone him with stones’ (Lev 20:2).
[**do′** (people, Ø)] CAUSE [[**do′** (stones, Ø)] CAUSE [BECOME **dead′** (him)]]

c. כִּי יַכֶּה כָּל־נֶפֶשׁ אָדָם
kî ya- Ø- kkeʰ- Ø kol- Ø= nefeš- Ø ʔādām- Ø
CLM IMPF- HI- strike- 3.M.SG the.whole- SG.CS= soul- SG.CS human.being- SG.AB
‘[Any man], when he strikes any human being…’ (Lev 24:17).
[**do′** (he, Ø)] CAUSE [BECOME **dead′** (any human being)]

d. וְרָדְפוּ מִכֶּם חֲמִשָּׁה מֵאָה
wᵊ- Ø- Ø- rādf- û mi- kkem ḥᵃmišš- āʰ mēʔ- āʰ
CLM- SEQU- QA- pursue- 3.PL P- 2.M.PL five- F.SG.AB hundred- F.SG.AB
‘And five of you shall pursue hundred’ (Lev 26:8).
[**do′** (five of you, Ø)] CAUSE [**do′** (hundred, [**flee′** (hundred)])]

Sentence (4.41b) describes a capital penalty by stoning. In abstract terms the undergoer (“him”) is caused to enter the state of death. The stones function as the instrument of the execution and are represented as “manipulated inanimate effector[s]” in the RRG logical structure (Van Valin 2005, 59). Put differently, the instrument is caused to cause an event. Needless to say, the undergoer is completely affected by the event. A number of other verbs similarly denote an event of annihilation, including הרג QA ‘kill’ (in fact, intentional killing or murder), שחט QA ‘slaughter’, זבח QA ‘slaughter’, and שׂרף QA ‘burn’. Another verb, נכה HI ‘strike’, often expresses a fatal blow, as in the *lex talionis* of Lev 24:15–22 (4.41c). Sometimes, however, the verb seems to express a hit which does not affect the

Hithpael form is reflexive; hence the sentence could be translated “You should keep them as an inheritance.” However, it is in fact entirely possible to have a reflexive causative, e.g., קדשׁ HIT “sanctify yourselves” (Lev 20:7). Moreover, the words ‘take’ and ‘keep’ suggest a causative reading because the undergoer is either taken from one place to another or prevented from leaving, respectively.

undergoer permanently. In Lev 26:24, for example, YHWH threatens to strike the Israelites seven times. In this case, the outcome is not death but repeated or increased punishment. The event in (4.41d) is a persecution, which amounts to causation of running away. The undergoer is affected because it is forced to flee.

In other cases, it is not so easy to determine whether the event is causative or not. Consider the examples in (4.42):

(4.42) a. וּפְאַת זְקָנָם לֹא יְגַלֵּחוּ

û- fᵊʔ- at zᵊqān- Ø- ām lōʔ yᵊ- Ø- gallēḥ- û
CLM- side- F.SG.CS beard- SG.CS- 3.M.PL NEG IMPF- PI- shave- 3.M.PL
'Neither shall they shave off the edge of their beard' (Lev 21:5).
do′ (they, [**shave off′** (they, edge of beard)])

b. בְּצֶדֶק תִּשְׁפֹּט עֲמִיתֶךָ

bᵊ- ṣedeq- Ø ti- Ø- špōṭ- Ø ʿᵃmîte- Ø- xā
P- justice- SG.AB IMPF- QA- judge- 2.M.SG fellow- SG.CS- 2.M.SG
'With justice you shall judge your fellow' (Lev 19:15).
do′ (you, [**judge′** (you, your fellow)])

c. צַו אֶת־בְּנֵי יִשְׂרָאֵל וְיִקְחוּ אֵלֶיךָ שֶׁמֶן זַיִת זָךְ כָּתִית לַמָּאוֹר

Ø- Ø- ṣaw- Ø ʔet= bᵊn- ê yiśrāʔēl wᵊ- yi- Ø- qḥ- û
IMP- PI- summon- 2.M.SG P= son- M.PL.CS Israel CLM- SEQU- QA- take- 3.M.PL
'Command the sons of Israel to take…

ʔēl- eʸxā šemen- Ø zayit- Ø zāx kātît- Ø la- Ø- mmāʔôr- Ø
P- 2.M.SG oil- SG.CS olive- SG.AB pure beaten- SG.AB P- ART- lamp- SG.AB
… to you pure, beaten olives for the lamp' (Lev 24:2).
[**do′** (you, [**express.**(you)**.to.**(sons of Israel)])] CAUSE [[**do′** (sons of Israel, Ø)] CAUSE [BECOME **have′** (you, oil)]]

A group of verbs look similar to regular extinction verbs. One of those is גלח 'shave', cf. (4.42a).[217] The verb denotes an act of shaving, and one wonders whether the act should be conceptualized as an act of removal or 'extinction' of the beard. In that case, the verb would be inherently causative. However, while the object of shaving is "the edges of the beard", at other occasions the direct object is simply ראש 'head' (e.g., Lev 14:9; Num 6:9, 18; Deut 21:12; 2 Sam 14:26). Therefore, we should not

[217] Other verbs include נקף HI 'go around' (or 'trim', cf. Lev 19:27), and שׁחת HI 'destroy' (Lev 19:27). Similar considerations regard זמר QA 'prune' which is used in the context of pruning a vineyard, that is, trimming the branches (Lev 25:3, 4).

understand the undergoer of the verb as an object to be removed, but simply as the theme of an activity. Accordingly, the RRG representation would be a two-argument performance structure.

Sentence (4.42b) depicts a public, juridical exchange between two participants rather than a personal estimation or judgement. For that reason, the undergoer must at least be affected due to his experience of the encounter. However, whether the undergoer is affected on a more fundamental level (i.e., whether his social status is permanently changed) is less clear. שפט QA 'judge' occurs frequently in the HB and is used to denote concrete lawsuits between two parties as well as referring to the just rule of kings and judges (Liedke 1984). In the particular case of Lev 19:15, the meaning is a lawsuit. Given the lack of contextual evidence, it is hard to determine whether the undergoer is permanently affected. In cases like this, it is best to construe the event in simplest terms as possible. Therefore, it is represented as a two-argument activity.

Finally, speech verbs are not normally causative. Van Valin and La Polla (1997, 118) describe 'tell' as a causative of becoming aware. צוה PI 'command' is probably also causative, as illustrated in (4.42c). Firstly, the addressees of the command are not marked as an oblique object as for regular speech verbs but with a case marker. Secondly, the speech event forces or persuades the Israelites to bring olive oil.[218] Therefore, the entire event is given as a double causative structure: a command causing the Israelites to cause Moses to come into possession of olive oil.[219]

4.4.3.5 Summary and discussion

The annotation of participants with Næss' three semantic parameters, instigation, volition, and affectedness, has led to a discussion of the compositionality of each parameter. A summary of the discussion and the implications for annotation and conceptualization of causation is given in Table 4.11 below. In theory, Næss' concept of semantic transitivity is compelling because it treats actors and undergoers of transitive events according to the same criteria. In practice, however, neither volition nor affectedness is self-evident. In particular, volition refers to rather different notions with respect to actor and undergoer. The decisive criteria of volition are intention with regard to the actor and involvedness with regard to the undergoer. Moreover, affectedness is a complex feature involving the definiteness and inherent properties of the undergoer (material vs. immaterial), apart from considerations pertaining to whether the undergoer is indeed *affected* or merely *effected*, and whether the actor is also affected (direction).

[218] Petersson (2017) argues that the speech event in Lev 24:2 is an indirect command that involves an element of causation because the agent is seeking to manipulate an addressee to perform an event.

[219] Another example with a causative צוה PI 'command' is found in Lev 25:21: "and I will command my blessings to you in the sixth year."

With regard to *Aktionsart* and semantic roles, instigation applies only to the actor role. Affectedness applies prototypically to the undergoer of events but does also relate to specific situations where the actor is affected by the event, e.g., events of eating, drinking, and wearing. Finally, volition, due to its compositionality, pertains to both actor and undergoer insofar as the respective participant is human/divine.

Table 4.11 Summary table of Næss' (2007) semantic parameters of transitivity including their alleged components and their correlations with semantic roles and causation

	Components	**Correlations with semantic roles**	**Correlations with causation**
Instigation	± impingement ± authority	actor	real causation [+ impingement, ± authority] indirect causation [± control, ± authority]
Volition	± intention ± involvedness	actor, undergoer	intended causation [+ intention, ± involvedness] permission [+ intention, + involvedness] neglection [– intention, ± involvedness]
Affectedness	± material ± definite ± effected direction	undergoer, actor	real causation [+ material, ± definite, – effected, directed]

With regard to the correlation of causation with semantic transitivity, Hopper and Thompson's simple definition must be reconsidered. For convenience, their definition is repeated here:

> [C]ausatives are highly Transitive constructions: they must involve at least two participants, one of which is an initiator, and the other of which is totally affected and highly individuated. (Hopper and Thompson 1980, 264)

To begin with, the discussion so far has revealed that the definition accounts well for 'real', or physical, causatives, that is, direct causation of a concrete, material undergoer by an impinging causer. In this case, the undergoer can rightly be considered completely affected, and the causer initiates the event (regardless of intentionality). However, as Talmy (2000) has demonstrated, causation is a much broader concept and involves persuasion, coercion, permission, neglection, and hindrance, besides direct causation. These derived causative events are not captured simply be considering the semantic transitivity parameters offered by Næss or Hopper and Thompson. Rather, the defining criterium of a causative event must be whether the event can logically be thought of as two individual events connected by a causative operator (cf. Shibatani 1976b, 1). The logical decomposition of verbal aspect offered by RRG is therefore a fruitful framework for analyzing Biblical Hebrew verbs. We may

not be able to avoid the RRG paraphrasing test for causation completely, since causation is a logical relation and is not realized morphologically or syntactically for lexical causatives. Nevertheless, by annotating the semantic parameters of the participants using Næss' parameters (with modifications), we have independent criteria for inquiring the roles of the participants in any given event. As shown, by combining RRG logical structures with semantic parameters, the decomposition of BH verbs can be carried out on a more informed basis.

Moreover, the annotation of semantic parameters allows for establishing a hierarchy of semantic roles. This will be the topic of the next section.

4.5 A hierarchy of semantic roles

The primary objective of this chapter was to identify morphological and syntactic parameters correlating with the notion of agency. It was argued that dynamicity and causation were the two features contributing most significantly to agency, and both features were investigated with respect to morphological and syntactic correspondence. The reason for scrutinizing agency is that agency is a multifaceted parameter which an argument can exhibit to a lesser or larger degree. In other words, participants can be differentiated semantically by discerning the level of agency invested in an event. This will prove particularly important in chapter 5 in which agency will be considered one of several parameters to scrutinize the social roles of the participants in Lev 17–26. In order to differentiate the participants according to agency, we first need to establish a hierarchy of semantic roles with corresponding agency scores. Accordingly, the insights gained in this chapter, in particular Næss' (2007) semantic features, will be combined in order to establish a hierarchy of semantic roles according to the degree of agency associated with each role.

In the history of linguistic research, a variety of hierarchies of semantic roles have been proposed. Traditionally, the hierarchies were created for the sake of argument selection. That is, the critical question was how the semantic roles relate to grammatical relations. Fillmore (1968; 2003), with his concept of deep cases, explained how the deep semantic structure of propositions is decisive for selecting the surface structure cases of NPs. In fact, he offered a simple hierarchy of semantic roles to explain the selection of subject in unmarked sentences:

> If there is an A[gentive], it becomes the subject; otherwise, if there is an I[nstrumental], it becomes the subject; otherwise, the subject is the O[bjective]. (Fillmore 2003, 55)

In other words, the case roles Agentive, Instrumental, and Objective form a hierarchy by which to link the case roles with grammatical relations. Later, Jackendoff (1990) offered a more elaborate

hierarchy of semantic roles: Actor > Patient/Beneficiary > Theme > Location/Source/Goal. Dowty (1991) proposed yet another hierarchy based on his proto-role distinction: Agent > Instrument, Experiencer > Patient > Source, Goal (usually). In fact, one of the criticisms leveled against thematic role approaches to argument selection concerns the differing hierarchies (cf. Croft 2012, 181). RRG does also offer a hierarchy of thematic relations based on their positions in the logical structure representations of the verbs. The hierarchy is used to determine the macroroles of a proposition, actor and undergoer. The RRG hierarchy of thematic relations, however, is not relevant for this study because I am not only interested in thematic relations but also in semantic roles beyond the thematic relations. The hierarchy I shall shortly propose depends on both thematic relations and the semantic parameters of the arguments, cf. Næss (2007). Accordingly, in the context of the present study, a hierarchy of semantic roles serves two purposes. Firstly, as in traditional approaches, the hierarchy is the basis for determining the actor and undergoer of a proposition. Secondly, since the hierarchy correlates with a measure of agency associated with each semantic role, it allows for quantifying events involving two interacting participants by means of the positions of the participants in the hierarchy.

By adopting the semantic features proposed by Næss (2007), I suggest a hierarchy of semantic roles according to instigation, volition, and affectedness. Within Næss' framework, agent and patient are the two most distinguished participants. Consequently, they represent the two extremes of a scale of agency. The defining features of an agent are instigation and volition, while the patient is prototypically characterized by affectedness. Thus, if the eight semantic roles proposed by Næss are sorted according to these parameters, a hierarchy is established (Table 4.12).

On top of the scale is the prototypical agent role, followed by non-volitional force. Force represents natural, physical forces such as lightnings. Curiously, in H, אֶרֶץ 'land' is sometimes presented as a force that can vomit out its inhabitants (e.g., Lev 18:25).[220]

Further, an affected agent is a volitional agent that is affected by the event (e.g., consumption events). Since the affected agent is volitional, it is ranked higher than the instrument role, which is also affected but not volitional.

[220] The role of the land can also be interpreted differently. It can be construed as a personified participant having its own will (agent) or as an instrument executing the will of YHWH (instrument). Since these two interpretations are not supported directly by the text, the force role appears to be the most convincing.

The last four roles are non-instigating. These include the frustrative role which expresses the denial or hindrance of an event willed by a participant.[221] This role applies well to the many prohibitions given in the law texts of Leviticus. The neutral role exhibits none of the agency parameters and includes the traditional semantic roles: source, goal, location, and manner. Since this role is neutral, it is given the agency score 0 from which the agency scores of the other roles are derived.

Table 4.12 A hierarchy of semantic roles and their corresponding agency scores

Role	Parameters	Score	Examples
Agent	[+VOL][+INST][–AFF]	5	**I am YHWH your God** who brought you out of the land of Egypt (Lev 19:36)
Force	[–VOL][+INST][–AFF]	4	**The land** vomited out its inhabitants (Lev 18:25)
Affected Agent	[+VOL][+INST][+AFF]	3	**Anyone of the house of Israel or of the sojourners sojourning among them** who eats any blood (Lev 17:12) **You** shall love your neighbor as yourself (Lev 19:18)
Instrument	[–VOL][+INST][+AFF]	2	I will bring terror upon you, **disease and fever, which** destroy the eyes… (Lev 26:16)
Frustrative	[+VOL][–INST][–AFF]	1	**You** may not let some of it remain until morning (Lev 22:30)
Neutral	[–VOL][–INST][–AFF]	0	You shall love **your neighbor** as yourself (Lev 19:18)
Volitional Undergoer	[+VOL][–INST][+AFF]	-1	I am YHWH your God who brought **you** out of the land of Egypt (Lev 19:36) **A man who takes his sister as wife** and sees her nakedness… (Lev 20:17)
Patient	[–VOL][–INST][+AFF]	-2	The people of the land shall stone **him** with stones (Lev 20:2)

The volitional undergoer is a sentient and/or benefactive participant, and the role thus subsumes the experiencer, recipient, and benefactive roles. The example of ‘seeing’ from Lev 20:17 (cf. Table 4.12)

[221] The frustrative role is typically derived from other roles by the presence of a negative clause operator (cf. Næss 116–117).

illustrates an interesting implication of the hierarchy. A man who sees his sister's 'nakedness' (euphemism for copulation) is a volitional undergoer insofar as he perceives his sister's nakedness. There is no hint in the text that he intentionally observes her but, rather, that the uncovering and perception of her nakedness is the effect of marrying her. The 'nakedness', on the other hand, is the object perceived and is therefore given the neutral role. It is neither instigating nor volitional and presumably remains unaffected during the event. This interpretation has important ramifications for the attribution of actor and undergoer in the sentence. As explained, the hierarchy of semantic roles allows for deciding which participant is the actor and which is the undergoer. The most agentive participant is the actor, while the least agentive is the undergoer. In the present case, 'nakedness' is rated higher than 'man' because the neutral role ranks higher than the volitional undergoer role; hence, 'nakedness' is the actor of the event, while 'man' is the undergoer. This might seem odd, since one would expect a human being who sees an object to be more agentive than the object seen. Strictly speaking, however, the event does not originate from the experiencer but from the object that stimulates the observation. Understood this way, the object perceived is construed as the actor and the volitional undergoer as the undergoer of the event.

Finally, the prototypical patient concludes the list of roles. This role is the least agentive of all roles and refers to participants who are totally and non-volitionally affected by the event.

We are now in a position to explore the distribution of semantic roles, agency, and participants. As an example, all human/divine participants that occur at least 20 times in Lev 17–26 have been cross-tabulated with their roles (Table 4.13). Given the agency scores, the mean agency for each participant can be calculated. Interestingly, the two main speakers of the speeches comprising the text, Moses and YHWH, are the two participants with the highest mean agency scores. By contrast, Aaron, the sons of Aaron, and the brother have much smaller agency means, a fact indicating that these participants obtain less agentive roles in the events in which they partake. Finally, the Israelites and the 2MSg ('you'), which refer to the distinction between the entire community of the Israelites and its individual members, respectively, are frequently attested in the frustrative role. This is to be expected since the frequent prohibitions in the text are primarily directed to the Israelites, either as a group or as individuals.

Although the distribution of semantic roles is suggestive of a *social* hierarchy, the semantic roles do not by themselves establish this hierarchy. Even if YHWH is agent-like, the frequencies of semantic roles do not inform us about the situations in which he is agentive and with respect to whom. To explore how the participants relate to one another, we need to analyze the semantic roles within a framework of actual social exchange among concrete participants. This framework is called Social

Network Analysis and will be the topic of the next chapter. In that chapter, the hierarchy of semantic roles and the corresponding agency scores will serve as the means by which the interactions among the participants of the social network are quantified.

Table 4.13 Semantic roles and mean agency scores obtained by the most common participants in Lev 17–26

	Agent	**Force**	**Affected Agent**	**Frustrative**	**Neutral**	**Volitional Undergoer**	**Patient**	**Mean Agency**
Moses	36	0	1	0	1	19	0	2.877
YHWH	118	0	1	8	29	30	17	2.645
an Israelite	60	0	22	7	4	6	38	2.182
2MSg ('you')	21	0	10	57	8	8	2	1.698
Israelites	99	0	44	72	28	83	31	1.569
sojourner	45	0	16	5	13	9	38	1.532
Aaron's sons	16	0	6	22	5	17	5	1.310
Aaron	16	0	11	31	1	19	10	1.193
brother	11	0	3	1	16	10	13	0.611
remnants	3	2	4	0	2	5	13	0.138
foreign nations	3	0	1	0	5	3	10	-0.227

4.6 Conclusion

This chapter has investigated methods for capturing participant agency in the Holiness Code. The theoretical framework for this undertaking was the linguistic theory of Role and Reference Grammar which provides a framework for predicting semantic roles on the basis of a logical, semantic representation of the verb. Since agency is compositional in nature and arises from a complex relationship between verb, participants, and the discourse-pragmatic context, a full-fledged notion of agency is not predicated by the RRG logical structures. Therefore, a theory of semantic transitivity was applied on top of the RRG lexical analysis to yield more agency properties.

In particular, two verbal properties were argued to be critical for capturing agency, namely, dynamicity (i.e., the opposition between states and activities) and causation. Each of the properties was explored with respect to its correspondence with BH morphology and syntax. It was argued that the BH vowel patterns do not consistently correspond with dynamicity, since prototypical stative verbs are attested in the dynamic vowel-pattern. While studies on dynamicity have produced important knowledge on states and activities, there is a fundamental weakness to classical 'exclusion tests' because they assume an intuition of the language that we cannot have for Biblical Hebrew. Moreover, the classical exclusion tests do not take into account the asymmetric relationship between states and activities. In particular, a test for dynamicity may yield both activities and states, because stativity can be cancelled due to pragmatic implicature. As a solution to this deadlock, a

collostructional analysis was proposed as a quantitative means for measuring how strongly verbs rely on certain grammatical structures. Although the experiment could certainly be fine-tuned (and hopefully will be in future research), the method was able to sort verbs according to distinct semantic senses, including directionality and benefaction/recipience.

As regards causation, the two BH morphological causatives, *Hiphil* and *Piel*, were considered, as well as the lexical causatives attested in Lev 17–26. Although causation cannot be limited to transitivity, causative events must logically be transitive. Therefore, a quantitative model was developed to explore the correlation between morphological causatives and transitivity alternation between the presumably non-causative *Qal* stem and the presumably causative stem (*Hiphil/Piel*). The prototypical morphological causative, *Hiphil*, supported the hypothesis by exhibiting a strong tendency for transitivity increase when alternating from *Qal* to *Hiphil*. The picture was more blurred for the notoriously complicated *Piel* stem. Furthermore, it was argued that *Hiphil* and *Piel* subcategorize for different semantic roles. Thus, although they can both be considered morphological causatives insofar as they prototypically add an external causer, they do not express the exact same kind of causative event. While *Hiphil* may be considered a 'real' causative, *Piel* often expresses a factitive event.

Since lexical causatives do not alternate between causative and non-causative morphological derivations, a transitivity alternation test does not apply to them. Therefore, Næss' (2007) theory of semantic transitivity was applied to annotate the participants with agency properties, including instigation, volition, and affectedness. It was concluded that causation does only partly correlate with the distinction of these parameters. While prototypical causatives do in fact involve instigating causers and highly affected causees, causation is a much broader concept that interferes with all of these properties. Therefore, it is probably unavoidable to undertake a logical analysis of the internal semantic structure of causatives, although this a difficult endeavor for an ancient language like Biblical Hebrew.

Finally, a hierarchy of semantic roles was proposed in order to quantify the roles of the participants as a means to investigating the participant roles in their respective networks of interaction.

CHAPTER FIVE

PARTICIPANTS IN SOCIAL NETWORKS

5.1 Introduction

The preceding chapters laid the groundwork for exploring participants in social networks. Chapter 3 discussed the complex task of participant tracking, aiming towards establishing a comprehensive dataset of all participant references. Chapter 4 focused on the events in Lev 17–26 in order to suggest ways of quantifying different events according to a hierarchy of semantic roles and corresponding agency scores. The objective of the present chapter is to analyze the relationships among the participants of Lev 17–26 in light of their concrete interactions and the level of agency invested in these interactions. Thus, a new concept is introduced: network roles. While semantic roles pertain specifically to the role of a participant in a particular event, network roles generalize beyond semantic roles and consider the roles of participants in a network of events. Consisting of 59 human/divine participants, Lev 17–26 poses a real challenge for understanding the social relationships among these participants. Who are the most important participants? Who are the most peripheral? Do some participants obtain an intermediary role between different social groups? And further, how do the specific roles of the participants correlate with the ethical obligations formulated by the Holiness Code? Are the laws simply arbitrary, or does the content of the laws hinge on the nature of the participants and the social roles constrained by the network? These are the questions to be addressed in this chapter. The questions are sociological in nature and are best addressed within the framework of relational sociology (cf. §2.4).

The outline of the chapter is as follows: In §5.2, the applied method for analyzing the social relationships among the participants, Social Network Analysis, is introduced and related to the present textual corpus. In §5.3, Lev 17–26 is analyzed as a social network by application of standard statistical measures, including cohesion, reciprocity, and centrality. In §5.4, two statistical methods are applied to explore the clustering of the network and to separate the participants into groups according to structural equivalence. In §5.5, a sample of individual participants are analyzed and discussed in light of their roles and relationships within the network of H at large and within their local networks. Finally, in §5.6 the findings are summarized and concluded.[222]

[222] The datasets, graphs, and programming scripts used for the SNA are accessible at https://github.com/ch-jensen/SNA. The participants explored with SNA are represented in an interlinear layout in the appendix.

5.2 Social Network Analysis

5.2.1 Brief history

Social Network Analysis is an umbrella term for theories and tools that are aimed towards describing social networks and the roles of the participants within the network. The most important research questions inquired with SNA relate to the ties between participants. What kinds of ties are they? Friendship ties, ties of trust, or of economical transaction? Furthermore, how strong are they? The importance of inquiring these questions lies in the fact that the performance of a team with the same members differs depending on the relationships between the members of the team (Borgatti et al. 2009).

The history of SNA is long and complex, and its roots can be traced back to the *Gestalt* tradition of psychology in the 1920s and 1930s.[223] By the 1970s, sixteen centers of research into social networks had emerged, but none of these succeeded in providing a generally accepted paradigm for the study of social networks (Freeman 2014). Finally, with the rise of the seventeenth center led by Harrison C. White at Harvard University, SNA became a more standardized paradigm and began to have immense impact on the social sciences. However, SNA did not only attract attention from sociologists, psychologists, and anthropologists. In the 1970s mathematicians and computer scientists became interested in subjects related to SNA, such as network groups and communities, in particular with respect to their special interests, namely graphs and graph partitioning. Later, in the 1990s physicists entered the scene (e.g., D. J. Watts and Strogatz 1998; Barabási and Albert 1999) and "revolutionized" the area of research, as Linton C. Freeman (2014) puts it. At that time, physicists and biologists were facing huge amounts of structured data to be analyzed, and they started applying (and sometimes reinventing) the statistical methods developed in SNA. The 'revolution', however, was not applauded by all members of the SNA community. As Ann Mische (2014) explains, the cultural theorists in the field felt that the physicist bend reduced the social and cultural richness of network analysis to a matter of 1s and 0s. In short, SNA was always a very diverse field of research despite numerous attempts at leveraging the methodologies and terminologies. Even today, social network analysts disagree as to the nature of SNA. Is SNA basically "a collection of theoretically informed methods" (Scott 2017, 8), or is it a theory in its own right? (Borgatti et al. 2009).[224]

[223] For more comprehensive accounts of the history of SNA, cf. in particular Freeman (2004; 2014) and Scott (2017, 11–39).

[224] Cf. also Mische (2014) for a discussion of whether SNA is a theory.

Today, SNA has become a huge field of research. The evolution partly owes to the development of Web 2.0 and the still recent, but enormously influential social media Facebook, Twitter, and Instagram, to name but a few. Each Facebook-user partakes in a huge social network, and the in-built application of friend suggestions on Facebook uses SNA-based algorithms for predicting new relationships on the basis of existing ones. Similar algorithms are known from Amazon and other webshops, where products are recommended based on previous purchases and, importantly, on purchases of users with a similar profile. These advanced websites thus apply SNA methods to create social network profiles of their users for the purpose of predicting behavior and targeting products and advertisements.

With its emphasis on networks, clustering, prediction of behavior, and role profiling, SNA is related to a broad range of network approaches in various research areas. These include physics and computer science (e.g., D. J. Watts and Strogatz 1998; Barabási and Albert 1999; Newman 2010), psychology (e.g., Westaby, Pfaff, and Redding 2014), biology (e.g., Luczkovich et al. 2003), and economics (e.g., Jackson 2011). Importantly, SNA has also found its way to the study of literature where it provides a methodological framework for revealing subtle connections among participants and patterns of interaction (cf. §5.2.3).

5.2.2 Main concepts

A great number of introductions to SNA have been published, both theoretical and practical ones (Borgatti, Everett, and Johnson 2018; Scott 2017; Newman 2010), as well as highly technical (Brandes and Erlebach 2005). Moreover, several practical introductions to analyzing social networks with Python have been published in recent years (Al-Taie and Kadry 2017; Raj P. M., Mohan, and Srinivasa 2018). In what follows, I will introduce the main concepts of SNA relevant for the present research. The interested reader is referred to more general introductions.

Nodes: The constituents or participants of a social network are called nodes.[225] The nodes can denote many different entities, typically individuals but also companies, organizations, terror cells, teams, etc. Within the broader applications of network analysis, a node may be a computer, a blood cell, or a neuron depending on the network under scrutiny. In this study, the participants of Lev 17–26 form the nodes of the network; hence ‘participants’ and ‘nodes’ will be used interchangeably.

[225] In computer science and graph theory the nodes are also called ‘vertices’.

Edges: The nodes in a network are connected by edges, often also called ties. An edge denotes the type of relationship between two nodes, e.g., friendship, kinship, enmity, trust, wedding, economical transaction, etc. The values of the edges may be binary (e.g., wedding ties) or continuous (e.g., degree of trust or amount of money transferred). The edges can be undirected (e.g., wedding ties) or directed, i.e., one person may regard another as a friend, but the friendship or trust may not be mutual. The same nodes may even be connected by multiple, different edges.

Degree: The degree is the number of edges tied to a node, e.g., a node with three edges has a degree of three. For directed edges, incoming ties produce the indegree, while outgoing ties produce the outdegree.

Graph: The nodes and edges form a graph. Depending on the type of edges (undirected vs. directed) and number of overlapping edges (singular vs. multiple), the graph may be either a simple graph (singular, undirected graph), a directed graph, or a multiple directed graph. Graphs efficiently visualize network structures and can be modified with color-coding of both nodes and edges, as well as scaling of nodes and edges according to their respective values. However, although graphs give a visual impression of the network, they can be difficult to interpret, especially for large networks with multiple directed ties. Therefore, it is common to transform the graph into adjacency matrices or vectors that allow for statistical computations of the structural properties of the graph. Moreover, recent approaches to studying network properties apply neural deep learning (Zhang et al. 2019; Wu et al. 2020) and so-called random walks (cf. §5.4.2).

Walk: The network graph can be traversed by following the edges between the nodes. Such traverse is called a walk and is essentially a sequence of edges connecting two nodes. The walk must respect the directions of the edges (if directed). The concept of walk provides information about the connectivity of the network and the environment of individual nodes. If a node can be reached by a number of different walks from another node, the two nodes are well connected. Other nodes may only be linked by a single sequence of edges and are therefore only loosely connected.

Ego: One can view a network from the viewpoint of the network at large or from the viewpoint of a single node, called ego. When exploring real-world data, one may not have access to the complete network because of lack of data. Instead, one can learn general network features by focusing on the

individual nodes, the egos of the network. From the viewpoint of the ego, a node with a tie to the ego is called an *alter*.

Ego-network: An ego-network consists of an ego and its alters. The ego-network is, thus, a subset of the entire social network.

Neighborhood: A neighborhood consists of all adjacent nodes with immediate ties to the ego. This neighborhood is called a first-order neighborhood. By contrast, a second-order neighborhood includes nodes within a distance of two edges from the ego.

5.2.3 Related research

A number of social network analyses have been dedicated to historical social networks, the best-known example probably being the Medici-family network in Renaissance Florence (Padgett and Ansell 1993). Another important study is Charles Tilly's (1997) analysis of the parliamentarization of Great Britain in 1758–1834. By systematically cataloguing numerous newspaper articles into categories of event, people, action, among others, Tilly created a large dataset that could be explored for changing relations among people groups. The procedure was tedious because each event had to be transcribed into an actor, the activity itself, and the undergoer of the activity, if any.[226] At the same time, Roberto Franzosi (1997) categorized 15,146 newspaper articles from the 'Red Years' (1919–20) that preceded the Fascists' arising to power in Italy. Relying on the works of William Labov and Joshua Waletsky (1967) and M. A. K. Halliday (1970), among others, the articles were classified according to actors and events. More information, such as time, space, number of actors in a particular group, and instrument, were added to the dataset. For both Tilly and Franzosi, the ultimate goal was to create a searchable database of the texts in order to query actors and events. In other words, the building blocks were semantic triplets of participants (actor and undergoer) and event. Today, computational methods enable automatic or semi-automatic classification of all sorts of text, but Tilly's and Franzosi's works demonstrate the basic requirements in preparing natural text for SNA.

Somewhat related to the present study is Steven E. Massey's (2016) network analysis of Moses and his relations with other Biblical characters in the Pentateuch. The underlying structural patterns revealed by his network analysis show that Moses and YHWH are unusually highly connected, that is, given that the degree of participants tends to correspond to the number of participants, Moses and

[226] Cf. also Tilly's (2008) later work in which he unfolds his approach in detail.

YHWH have surprisingly many connections. Massey suggests that this fact may owe to authorial emphasis on these two participants.

Other social network analyses have focused on novels and mythological texts (e.g., Beveridge and Shan 2016; Waumans, Nicodème, and Bersini 2015; Carron and Kenna 2012). M. E. J. Newman and Michelle Girvan (2004) explored algorithms for detecting communities in social networks, including Victor Hugo's famous *Les Misérables*. SNA has also been applied to the study of the literary characters in the Greek tragedies collected and digitized by the Perseus Digital Library (Rydberg-Cox 2011). Finally, Agawar et al. (2012) carried out a study of *Alice in Wonderland* in which they explored the narrative roles of the participants in terms of authority, degree centrality, and structural hubs. Moreover, although a text is static (in terms of network structure), by modeling each chapter as a separate network, they demonstrated how the network evolves over the course of the novel.

SNA has also been applied to the study of ancient corpora. In particular, Assyriologists have employed SNA to the research of Neo and Late Babylonian archives (Waerzeggers 2014b; Allon Wagner et al. 2013; Still 2016). The Babylonian archives contain thousands of tablets which record the activity of thousands of people, including economical transactions and marriages. By itself, a tablet gives a bare glimpse of a social world but may not provide an extensive impression of the social roles of the participants recorded on the tablet. However, some participants occur in several tablets and possibly in different roles, e.g., witnesses or traders. Therefore, by mapping tablets and persons, a social network emerges, allowing for exploring social connectivity in Babylonian society, flow of communication, and even "potential for mobilizing rebellions" (Waerzeggers 2014b, 209). In fact, the construction of a two-mode social network (i.e., a network with two types of nodes: tablets and persons) can even be used for the dating of tablets (Allon Wagner et al. 2013). In his recent dissertation, Bastian J. F. Still (2016) analyzed 3,500 cuneiform tablets in order to map the social world of Babylonian priests and to inquire how the Babylonian priesthood interacted with other social groups. Completing this short survey of SNA-studies of cuneiform tablets, it is worth noting that Judean-Babylonian connections during the Judean exile in Babylon have also been mapped and explored (Alstola 2017; Waerzeggers 2014a).

All social network studies of cuneiform tablets mentioned here essentially employ two-mode networks, that is, they involve two sets of nodes (tablets and persons) to be mapped. In that respect, they can reveal connections between persons across different tablets. By contrast, the present study is a one-mode network, because there is only one text, the Holiness Code. Therefore, the present analysis diverges from the archive-approach in several respects. Most importantly, the participants in

H are not assumed to be connected simply because they appear in the same text, but only if interactions are explicitly recorded.

Much more relevant for the present study is Chebineh Che's (2017) text-syntactic and literary analysis of Gen 27–28 in which he applied SNA to a short, self-contained text, not unlike the present study of H. In his dissertation, the social network was modelled on the basis of the speeches recorded in order to quantify the relationships and roles of the participants in dialogue. The methodology was adopted from Franco Moretti (2011; 2013) who argued that narrative plots can be quantified according to SNA centrality measures. In particular, like Fuhse (2009; cf. §2.4.1), Moretti pointed to the significance of the network edges because it is not enough to simply record who is speaking to whom. Rather, according to Moretti (2011), speeches need to be quantified according to the space occupied by them, that is, the extent of communication. In that respect, participants with multiple or long dialogues will carry more weight than participants with just a single utterance. In his application of Moretti's methodology, Che, then, demonstrated how SNA centrality measures can be used to identify different participant roles in a narrative.

5.2.4 Towards a Social Network Analysis of Biblical law texts

Unlike the related research areas described above, the purpose of the present study is to examine a social network implied by a single, legal text. To my knowledge, it is the first attempt to model a law code as a social network. A number of issues arising from this endeavor have already been addressed (§2.4.2). Most importantly, despite Lev 17–26 being a law text, the chapters constitute an apt candidate for SNA, because the legal basis is one of common law. Therefore, we can expect the laws to be dialogical and interactional in nature as a reflection of their social context and as concretizations of the expectations and values of the author.

Another difference to the related research referenced above is the conceptualization of the ties among the participants. It is common to count co-appearance as a tie, for instance, if two participants are present in the same text or in the same chapter. Or to quantify the interaction as the length of speech between two conversing participants. To my knowledge, no social network analysis has so far quantified the interaction between two participants by means of agency as is done in the present study. The notion of agency allows for including a vast range of interactions apart from merely dialogue or specific types of transactions. The procedure for capturing agency will be unfolded below.

Finally, the present SNA is the first attempt at taking into account the discourse structure of the text. The ETCBC database contains annotations of the syntactic hierarchy of the BH text which allow for considering the discourse structure as another dimension of the network. When applied to texts, SNA is regularly employed to model the text as a two-dimensional network. Thus, the complexity of

the text is often reduced to whether two participants appear in the same text or section of the text, or whether two participants are interacting. Texts, however, are not two-dimensional. They have an inherent 'depth' in that interactions are embedded in a discourse structure. Accordingly, the interaction of two participants may be conditioned by the interaction of another set of participants. Understood this way, the 'world' of the text is a three-dimensional space, and in order to capture the meaning of the network, the internal relationships of the participants are best understood within this space. This feature will be the topic of §5.3.5 and will be demonstrated concretely in the discussion of the role of *Moses* (§5.5.2.1).[227]

5.2.5 Data modeling

The data used for deriving the social network of Lev 17–26 are participant references and verbs. Together these two types of data form semantic triplets of actor, undergoer, and event. Both sets of data have been documented in the preceding chapters and form the backbone of the present investigation. However, not all data produced in the participant-tracking and semantic role analyses are included. A more precise definition of the data types is therefore in place:

> *Nodes:* The nodes of the network are human/divine participants. In addition, also body parts and expressions referring to a human/divine being, e.g., 'soul', are included. The choice of including body parts is reasonable, given that they are frequently employed as references to persons, e.g., "his hand" in "a man, if he has no redeemer, but his hand prospers…" (Lev 25:26).[228] All non-human and non-divine participants have been excluded manually.
>
> *Edges:* The edges of the network are the interactions taking place among the participants (i.e., the nodes). These interactions include speech, trade, marriage, execution, and fighting. The interactions also include cultic transactions, such as defilement and sanctification, as well as affective relations, such as love and hate, and perceptual relations, such as hearing. Not all of these relations are actually transactions, but they capture different sorts of relationships (Borgatti, Everett, and Johnson 2018, 5). In SNA it is common to restrict the edges to represent one type of interaction or connection, e.g., trade connections or marriage ties, in order to simplify

[227] Italics are used to mark participants, e.g., *Moses*, as 'network participants'. Thus, the role of *Moses* is not (necessarily) the role of the 'real' Moses outside the text or outside the bounds of Lev 17–26 but the role of the participant within the social network derived from H.

[228] Consequently, in the New Revised Standard Version "hand" is simply omitted, and the verb refers to the man: "If the person has no one to redeem it, but then prospers…"

the analysis. To justify the present approach, however, the events are also quantified in terms of agency. As explained in chapter 4, each participant is given a score of agency according to its semantic role in a particular interaction, and this procedure effectively distinguishes highly agentive participants, such as traders or speakers, from less agentive participants, such as recipients or benefactors. The agency scores are computed on the basis of the semantic role hierarchy in §4.5 (see examples in Table 5.1 below). Since each interaction involves two participants, there are also two agency scores. The squared difference between these two scores produces a combined agency score for each interaction. In other words, the network edges are conceptualized as the agency difference between two interacting participants (see example in Figure 5.1).[229]

(Lev 23:30) וְהַאֲבַדְתִּי אֶת־הַנֶּפֶשׁ הַהִוא מִקֶּרֶב עַמָּהּ

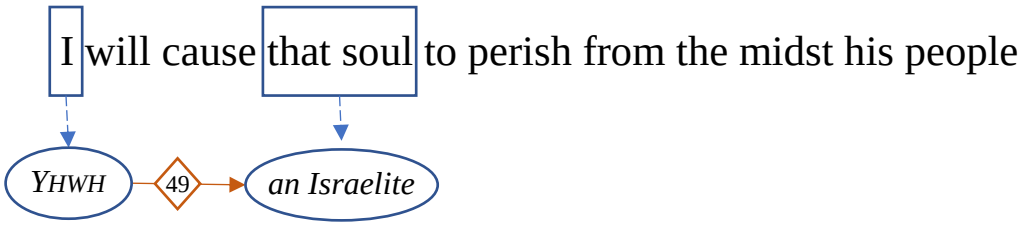

Figure 5.1 A schematic representation of the derivation of a semantic triplet from a clause in Lev 23:30. Agency scores are computed on the basis of the respective agency scores of the participants (*YHWH* = 5, *an Israelite* = -2). The difference is seven, and the squared difference is 49

The constraint on participants (i.e., only human and divine participants) resulted in a reduced list of potential edges. Moreover, since only semantic triplets are of interest here, many sentences were dropped because they involved only one participant. The semantic triplets were automatically extracted from the database according to the presence of human/divine participants. A few interactions were not captured by this approach, including, e.g., Lev 25:14 where the addressees are prohibited from oppressing their fellows, literally "You (Pl) may not oppress, a man his brother". Since this event is formed by two clauses ("You may not oppress" and "a man his brother"), it was not captured

[229] While most interactions involve two participants, some do in fact involve three. More precisely, the three-argument sentence in Figure 5.1 involves three participants ('I', 'that soul', and 'his people') that are connected by edges; hence, there are three edges to represent the event going on between the three participants: YHWH → an Israelite, YHWH → his people; his people → an Israelite. The agency scores of the participants decide the direction of interaction.

as a semantic triplet by the present approach. For the sake of consistency, only one-clause semantic triplets were included.

In sum, 479 semantic triplets were extracted from the text which consists of 1,176 clauses. To be sure, some clauses generated multiple triplets because a participant reference may refer to multiple participants, e.g., "mother and father" in "any man (of you) shall fear his mother and his father" (Lev 19:3). A sample of the resulting data is given in Table 5.1, and the resulting network is illustrated in Figure 5.2.

Table 5.1 A sample of the semantic triplets extracted from Lev 17–26

Event ID (clause)	Actor	Undergoer	Event	Agency
439721	*YHWH* (agent)	*Moses* (volitional undergoer)	speak (דבר PI)	36[230]
440521	*2MSg* (affected agent)	*YHWH* (neutral)	fear (ירא QA)	9
439855	*2MSg* (agent)	*YHWH* (patient)	defile (חלל PI)	49
439740	*sojourner* (frustrative)	*mother* (neutral)	approach (קרב QA)	1[231]
440045	*foreign nations* (neutral)	*YHWH* (*volitional undergoer*)	loath (אקץ QA)	1

The network has 59 nodes, corresponding to the number of participants, and 479 edges. The edges refer to concrete verbs as well as to agency scores derived from the respective agency degrees of the participants in interaction. Moreover, the edges are directional (from actor to undergoer) and multiple according to the number of interactions between the participants.

5.2.6 Summary

Social Network Analysis has often been applied to written texts in order to explore quantitative means for understanding the roles of the participants involved. The present study diverges significantly from traditional procedures in that the edges represent all kinds of events. This approach is feasible given the abstract agency score computed for each interaction that allows for differentiating the events. Furthermore, the textual object under consideration is a legal text which would not normally be thought of as representing a network of participants. Nevertheless, the Holiness Code represents a value system by means of recording concrete legal cases involving concrete participants. As such, the

[230] The agency score is calculated as the squared difference between the actor score (5 for 'agent') and the undergoer score (-1 for 'volitional undergoer'). The difference is six, and the squared difference is 36.

[231] The clause would normally involve an agentive actor. In this particular case, however, the event is prohibited, i.e., negated. Strictly speaking, therefore, the event does not take place, and the actor is left frustrative (agency = 1) and the undergoer untouched (= 0).

text is a weave of interactions induced with ethical values. Finally, the approach advanced in this study takes seriously the structural hierarchy of the text which in fact adds a third dimension to the two-dimensional space formed by the social network. The third dimension offers an additional – and important – perspective on the roles of the participants.

In what follows, the social network of Lev 17–26 will be explored by means of standard SNA statistical measures.

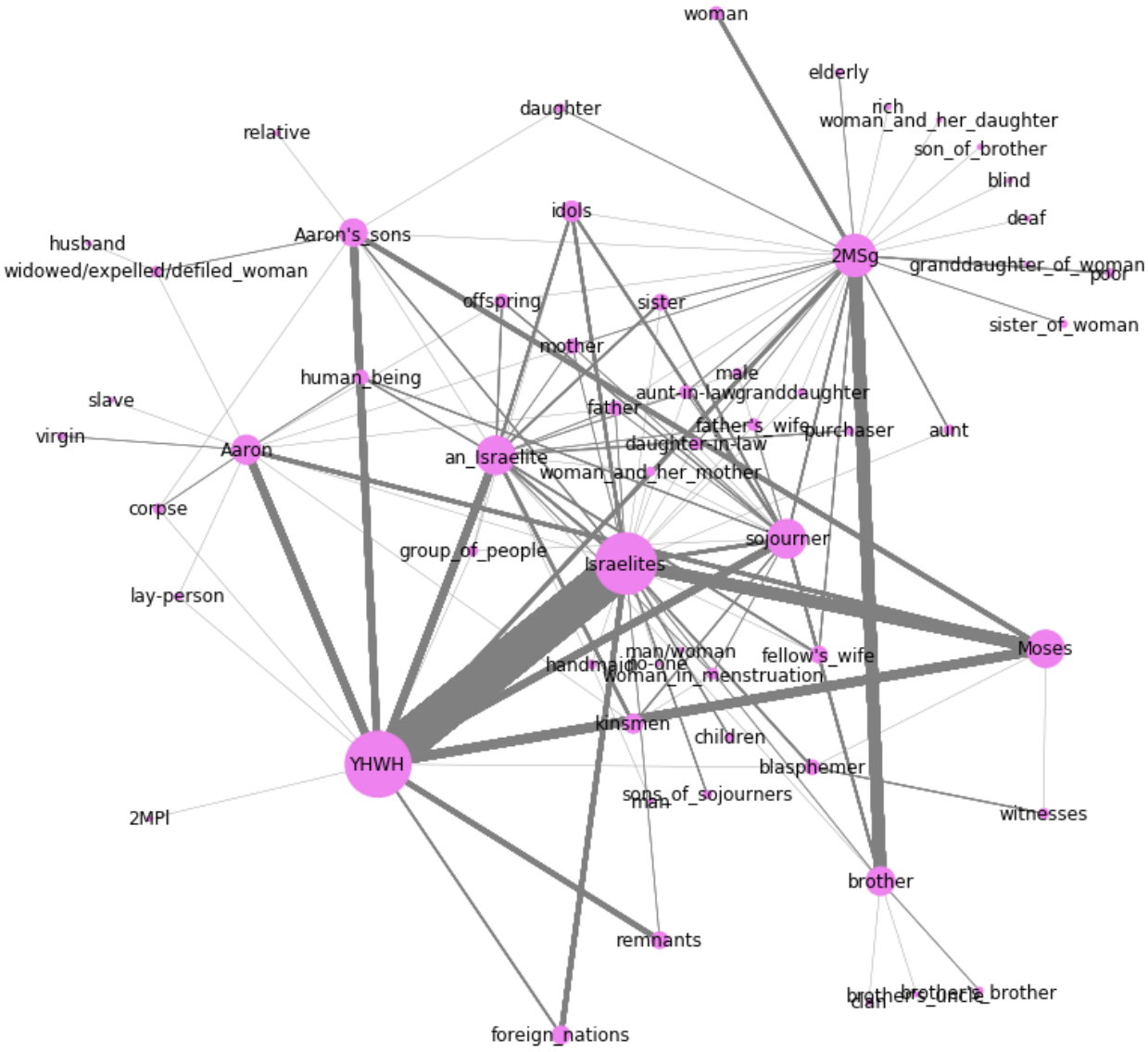

Figure 5.2 The social network of Lev 17–26

5.3 The social network of Lev 17–26

5.3.1 Objectives and tools

The social network derived from Lev 17–26 is complex. It is directed and weighted, and there may be multiple ties between pairs of participants. The purpose of the present section is to explore the network by means of standard statistical measures. These measures include 1) network cohesion; 2) reciprocity; and 3) centrality. Finally, the discourse structure of the text will be related to the social network. The visualizations and calculations are carried out with the Python package NetworkX.[232]

5.3.2 Cohesion

Cohesion is a measure of the 'knittedness' of a network, that is, how well connected it is (Borgatti, Everett, and Johnson 2018, 174–79). A network with many interconnected nodes has a high degree of cohesion while networks with long paths between the nodes, as well as isolates (unconnected nodes), are less cohesive. In this respect, cohesion does not concern the nature of connections, whether the connections or relations are positive or negative (e.g., friendship or hate). A network may be structurally cohesive but sociologically fragmented if the connections are relations of enmity.

One of the simplest measures of cohesion is average degree.[233] The average degree is the average of ingoing and outgoing ties of each node in the network. In the H-network the average degree is 16.23 if all connections are included (including multiple edges). The edges are far from evenly distributed in the network. As Figure 5.3 below illustrates, a large number of nodes (32) do not have outgoing ties, that is, more than half of the participants do not function as actors in the network but only as undergoers. By contrast, only eight nodes have no ingoing edges. The graph illustrates a common phenomenon for social networks in that the vast majority of the participants have few ties to other participants (Massey 2016).[234] A few participants are very well connected in the network. *YHWH*, for instance, has 115 outgoing ties and 76 ingoing ties and has the highest overall degree within the network (191). This is not surprising, since he is recorded as the divine speaker and frequently appears within the speeches themselves as recipient of sacrifices or as in threat of pollution (cf. §5.5.1.1). Other frequent participants include the collective group of *Israelites* (degree=165), the

[232] For a practical guide to analyzing social networks with Python and NetworkX, cf. Al-Taie and Kadry (2017). For a summary introduction to SNA and computational methods, cf. Tang (2017).

[233] Another measure is density, which is the number of edges in the network proportional to the number possible (Borgatti, Everett, and Johnson 2018, 174). The Leviticus-network has 59 nodes and 128 edges (undirected and unweighted), corresponding to a density of 0.075.

[234] 52.54% of the nodes have three or less ingoing ties (77.97% for outgoing ties).

singular ‘you’ labelled *2MSg* (78), the *sojourner* (66), the singular *an Israelite* (65), and *Moses* (61). These participants account for 65.34% of the interactions.

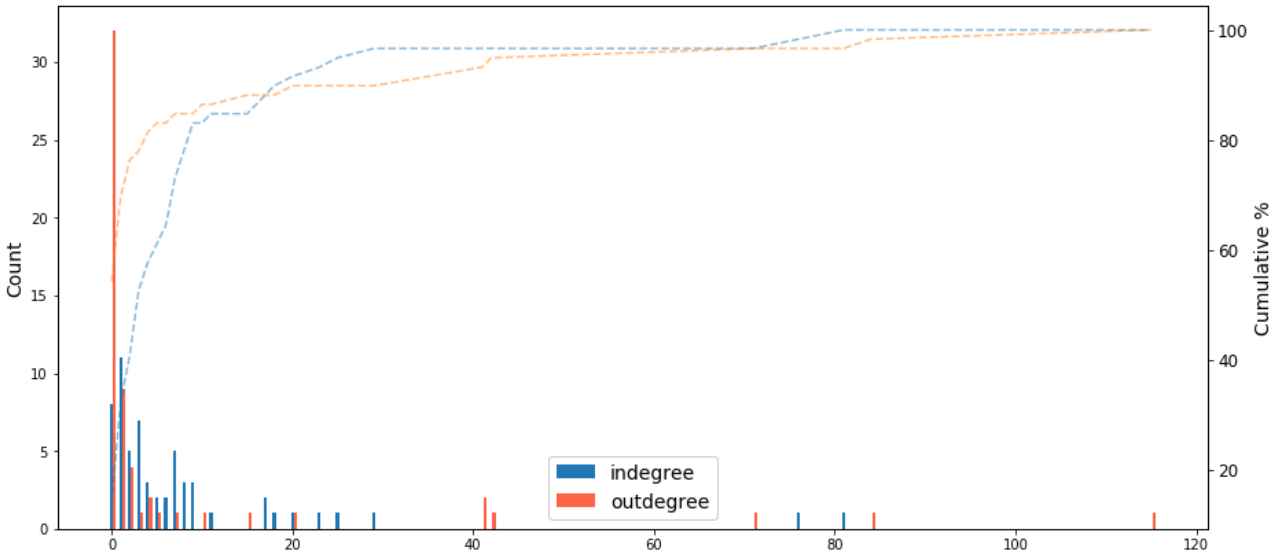

Figure 5.3 Degree distribution (multiple, directed graph). Dashed lines are cumulated degree

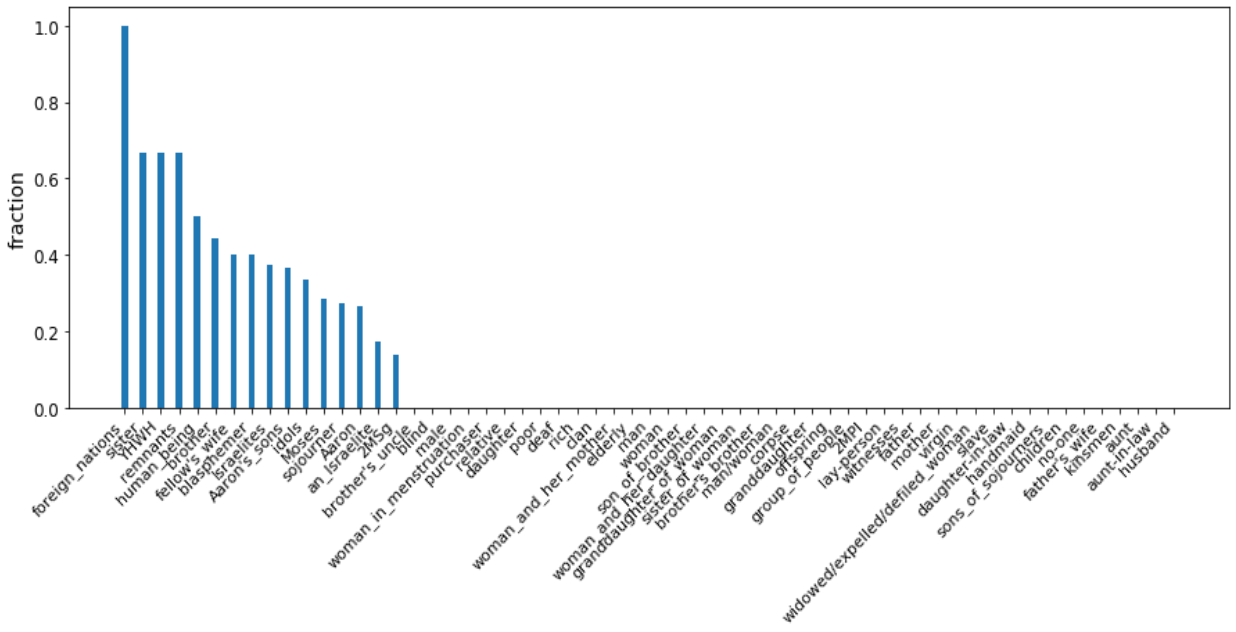

Figure 5.4 Reciprocity (singular, directed graph)

5.3.3 Reciprocity

The edges of the H-network are directional, and some of them are reciprocal. Strictly speaking, reciprocity need not imply that one action is a response to another action. Reciprocal actions may not be directly related since interactions can be captured from anywhere in the corpus. Reciprocity, however,

gives an indication of whether the relationships of the network are mutual or one-sided. In the H-network, 24.66% of the relationships are mutual,[235] while the remaining ones are only one-way interactions. The distribution of reciprocal ties is shown in Figure 5.4. Most strikingly, the participant *foreign nations* has only reciprocal ties. A closer look at the data shows that the *foreign nations* have two ties, one with *YHWH* and one with the *Israelites*, both of which are bidirectional. The *sister*, *YHWH*, and the *remnants* follow next with reciprocity ratios at 67%. By contrast, most participants do never engage in reciprocal relationships; hence, they are only transmitters or recipients in any of their relationships.[236]

5.3.4 Centrality

Real-world social networks are usually 'clumpy' in that the participants tend to cluster in smaller, cohesive groups within the larger network. The reason for this phenomenon usually owes to different sociological factors, such as homophily,[237] geographical concentration, and a tendency to connect with the relations of one's relations (Borgatti, Everett, and Johnson 2018, 180). The indegree and outdegree scores recorded above already indicated a small core of highly connected participants and a majority of less connected participants forming a periphery of the network. A range of statistical measures have been developed to calculate the centrality of individual participants in the network. Four of these measures have been computed for the H-network, and the top-ten scores for each measure are displayed in Figure 5.5.

The first two measures are indegree and outdegree, already introduced above. Here, the degrees are calculated as degree centralities.[238] There is a marked difference between the outdegree and indegree scores. First of all, while the indegree ratios appear more evenly distributed across the participants, a few participants have strikingly high outdegree scores. The singular 'you' (*2MSg*), and the *Israelites* both have very high outdegree ratios and are thus very active in the network. They are the actors of many events and therefore occupy central positions in the network. *An Israelite* (Sg), the *sojourner*, *YHWH*, and the priests (*Aaron* and *Aaron's sons*) also have high outdegree ratios. As noted, the indegree ratios are less varied. *YHWH* has the highest indegree ratio, probably because he is the benefactor/recipient of offerings as well as the undergoer of reverence. While some of the outdegree top scorers also have relatively high indegree ratios (e.g., the *Israelites*, the *sojourner*, *an Israelite*,

[235] This measure excludes multiple ties. If multiple ties are included, 32.57% of the interactions are reciprocal.

[236] A participant with no reciprocal relations may be transmitter in one relation and receiver in another relation.

[237] Homophily is the tendency of participants to bond with similar participants, e.g., same gender or same age.

[238] Degree centrality is computed as the sum of ties normalized by the maximum number of ties possible. In simple graphs, the score is between 0 and 1.

Aaron's sons), some participants score high in indegree but not in outdegree. These are the *brother*, the *mother*, the *father*, the *idols*, and the *daughter-in-law*. Except for the *idols*, these participants are all defined from the point of view of the Israelites (most frequently the singular Israelites). They occur relatively frequently in the network and thus have relatively high indegree ratios, but they occur predominantly as undergoers. These participants thus fall somewhere between infrequent, peripheral participants and frequent, active participants.

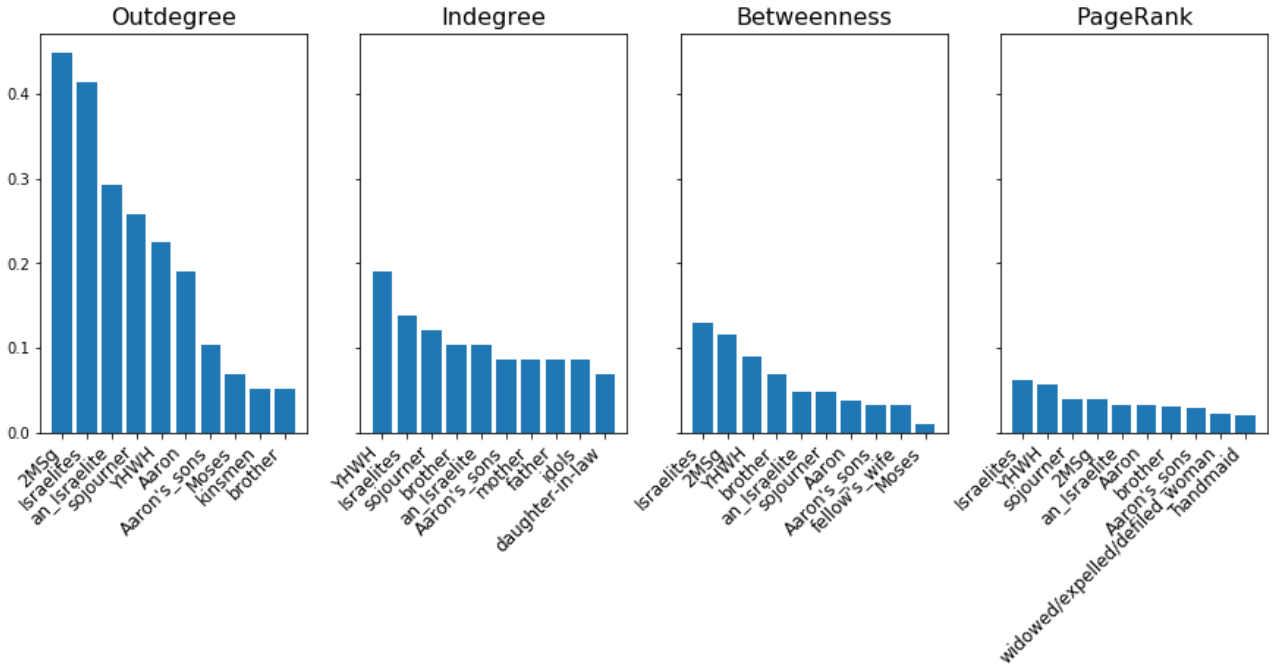

Figure 5.5 Top-ten distributions of centrality measures

The third measure is betweenness (Freeman 1978) where centrality is understood as how often a node is positioned along the shortest path between two nodes. Betweenness centrality is typically interpreted as an index of control because nodes with high betweenness ratios occur at critical junctures of the network and function as "gatekeepers" (Brass 1984). If these nodes fall out of the network, the network becomes fragmented because a number of nodes will no longer have any connections with the network. In general, the H-network does not exhibit high betweenness scores. This fact indicates that the network is generally well connected. The *Israelites*, *2MSg*, and *YHWH* have the highest betweenness scores in the network. In particular, *2MSg* and the *Israelites* are both connected to unique sets of participants and they therefore have an intermediary role in the network. *YHWH* also has a high betweenness ratio because he is involved in interactions with many different parts of the network, which would otherwise be less cohesive.

The fourth measure is the PageRank centrality which was developed by Lawrence Page et al. (1998) and became one of the main ingredients of Google's search engine at that time (Koschützki et al. 2005, 53). The algorithm rates a node according to the number of ties from other nodes and, importantly, the centrality of those nodes. In other words, a node (e.g., a website) is considered central if it is linked to by other central nodes. As for the H-network, one recognizes several top scorers from the other centrality measures. The *Israelites* have the highest PageRank ratio, followed by *YHWH*, the *sojourner*, *2MSg*, *an Israelite*, and *Aaron*. The *Israelites* are the direct addressees of *YHWH's* speech to *Moses*, and they are therefore directly connected to other important participants, unlike *2MSg* which is only indirectly connected by being referred to within the speeches. As recipients of divine revelation, the *Israelites* would be assumed to be a central figure within the law text.

5.3.5 Discourse structure

As explained above, the purpose of SNA is to reduce the complexity of a social setting into a two-dimensional map consisting of nodes and edges. The same approach applies to SNA of texts which have traditionally been analyzed with SNA by modelling the participants and their internal connections on the basis of some criteria. Edges may be conceptualized as the cooccurrence of participants in the same chapter, newspaper article, or tablet, but also as concrete dialogue between participants (e.g., Che 2017). These traditional approaches tend to run counter to a fundamental feature of texts, namely the internal syntactic structure of texts. Texts are not one-dimensional but are structured according to the discourse of the text, so that each sentence is structurally related to other sentences in one way or another. The dialogical structure of Lev 17–26 illustrates this phenomenon well, e.g., "And YHWH spoke to Moses, saying: Speak to the sons of Israel and say to them: I am YHWH your God" (18:1–2). These two verses contain several layers. The first layer is a narrative introduction by the author of the text (18:1). Embedded in the narrative context, YHWH's speech is a command to Moses to speak to the people of Israel (18:2ab). Finally, Moses' speech begins in 18:2c with a quotation of YHWH. Thus, the first two verses of Lev 18 contain three levels of discourse: narrative introduction (level 1) > YHWH's command to Moses (2) > Moses' speech to the Israelites (3). Most interactions occur at the third discourse level (Figure 5.6). This level usually contains the content of Moses' speeches and comprises the body of the legislation. Moses himself is by far most active at the second level, that is, the level where YHWH typically commands Moses to speak. Consequently, the interactions contained in the laws of Lev 17–26 are *conditioned* by the speeches of Moses; they are the content of what he says. Ultimately, the legal interactions and Moses' speeches are the content of YHWH's speeches to Moses and, of course, the content of the author's narrative. In a word, then,

interactions on one domain are *controlled* or *conditioned* by the higher-level domains.[239] Obviously, this phenomenon has implications for how we understand the importance and roles of participants, because higher-level participants are in control of lower-level interactions.

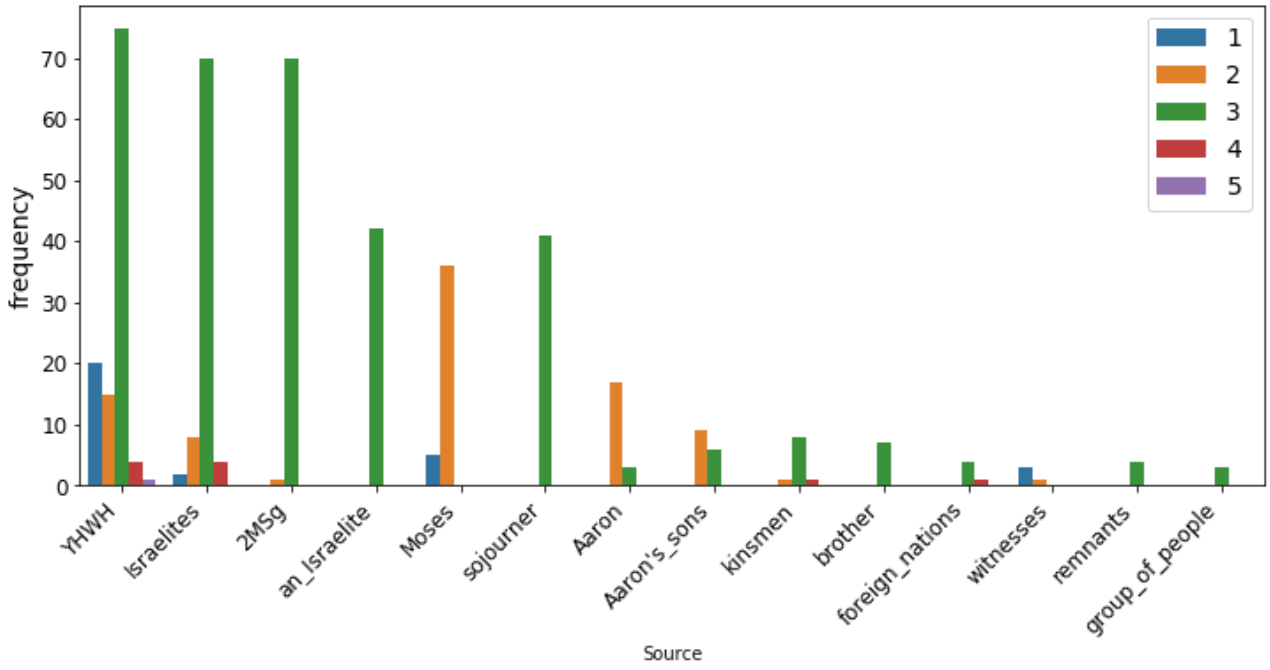

Figure 5.6 Frequency of participants (actors) as a function of textual domain in Lev 17–26

As shown in Figure 5.6, there are five discourse levels in Lev 17–26.[240] On a more fundamental level, however, the structural hierarchy of a text is not limited to the embedding of speeches but applies to all sorts of interaction. Indeed, one sentence in a text is structurally conditioned by another sentence. In a narrative, for instance, one event is conditioned by the preceding event, and the narrative is thus formed by a series of successive and conditional events. In the case laws of Lev 17–26, the apodosis is conditioned by the protasis, for instance, the sentence "If the people of the land should hide their

[239] I am grateful to Eep Talstra for his valuable insights on this topic (personal conversation).

[240] The five discourse levels are as follows.

- Level 1: 17:1; 18:1; 19:1; 20:1; 21:1a, 16, 24; 22:1, 17, 26; 23:1, 9, 23, 26, 33, 44; 24:1, 10–13, 23; 25:1; 26:46.
- Level 2: 17:2ab, 8a, 12a; 18:2ab; 19:2ab; 20:2a; 21:1b–15c, 17ab; 22:2a-3a, 4a–16d, 18ab, 27a–33c; 23:2ab, 10ab, 24ab, 27a–32c, 34ab; 24:2a–9d, 14a–15b, 22; 25:2ab.
- Level 3: 17:2cde, 8b–11f, 12b–14d; 18:2c–24c, 26a–27b, 28a–30e; 19:2c–37c; 20:2b–23c, 24e–26b, 27; 21:17c–23f; 22:3b–h, 18c–25d; 23:2c–8c, 10c–22f, 24c–25b, 34c–43d; 24:15c–21d; 25:2c–20a, 21–55; 26:1a–13c, 14–45.
- Level 4: 17:3–7, 14e–16c; 18:25, 27c; 20:23d–24a, 26cd; 25:20bcd; 26:13de.
- Level 5: 20:24bcd.

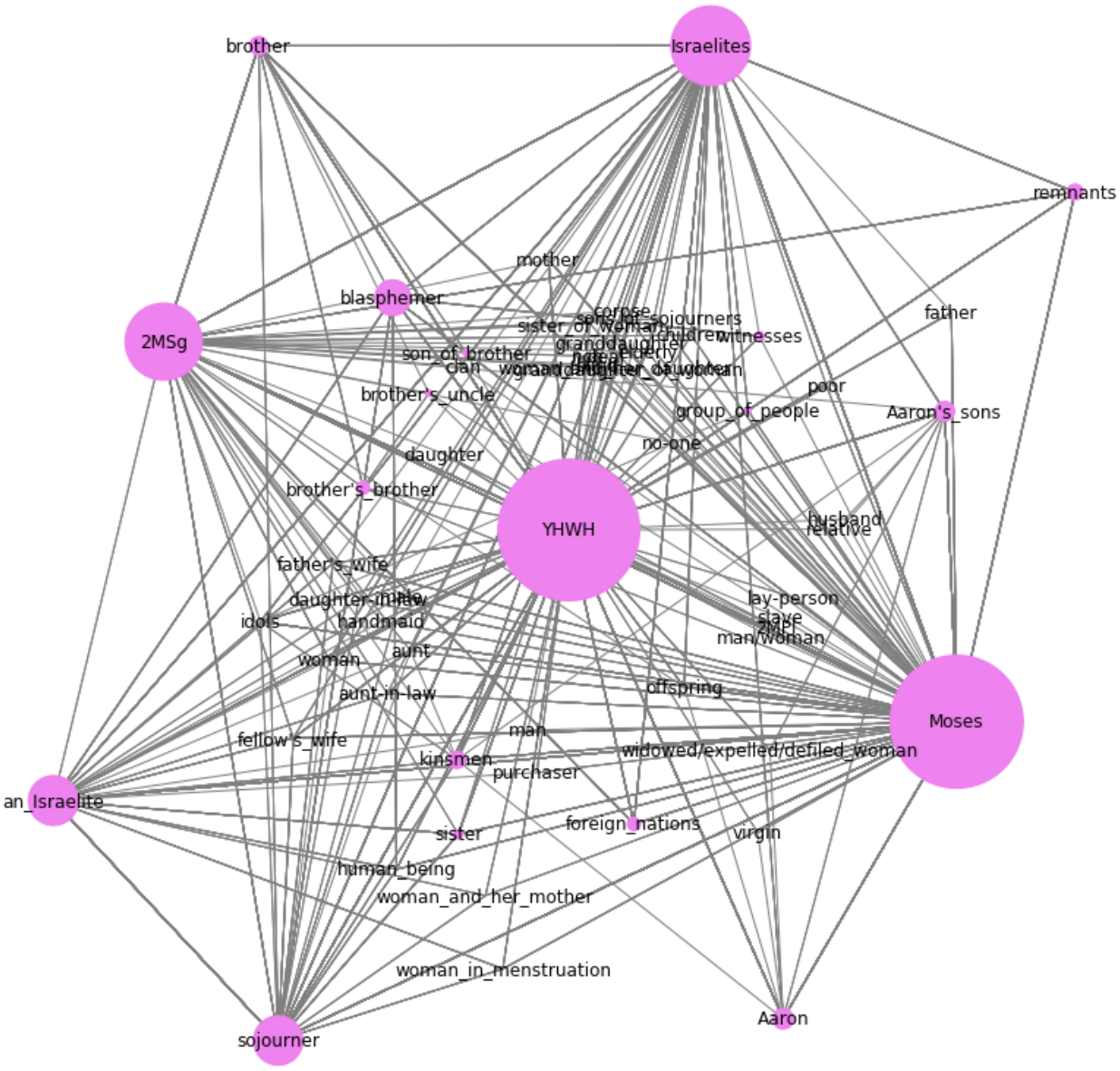

Figure 5.7 A multiple, directed network of domain ownership/control. Node size corresponds to outdegree

eyes from this man" conditions "I will put my face upon that man and his clan" (Lev 20:4–5).[241] This information is annotated with the 'mother' feature in the ETCBC database of the Hebrew Bible. If this feature is retrieved and mapped onto the SNA-model of the text, 39 levels appear. If one event conditions another one, it is reasonable to consider the *actor* of the former event to condition the latter event, including the participants participating in the latter event. We can represent this conditional relationship as a directional edge going from the actor of the former event to the participants involved

[241] To be sure, a clause need not be conditioned by the immediately preceding clause, because two clauses may both depend on the same higher-level clause.

in the conditioned event. For example, insofar as *YHWH's* speech in 18:2ab conditions *Moses'* speech in 18:2c, an edge can be drawn from *YHWH* to *Moses* to represent the conditional relationship between the two participants. Put differently, *Moses* is embedded in *YHWH's* domain, and *YHWH's* 'domain ownership' can be represented as a directional edge from *YHWH* to *Moses*. If such edges are drawn from all controlling actors in the network to all their respective conditioned participants, another type of network emerges, representing the syntactic structure as a network. In this network, the nodes are still participants, but the edges are not interactions but 'direction of embeddedness'. The syntactic hierarchy thus establishes a third dimension to the network of Lev 17–26 and can be represented as a network on its own (Figure 5.7).

Compared to the regular social network of Leviticus (Figure 5.2), the main participants still dominate the network. The centrality of *Moses*, however, is significantly increased as illustrated by the size of his node. He has the second highest outdegree (826) in the entire 'control network', that is, he conditions or controls the interactions of 826 participants.[242] The high outdegree values are also reflected in the centrality measures displayed in Figure 5.8. Put differently, *Moses* and *YHWH* dominate the network because they control most of the interactions. This observation will be considered along the general discussion of *Moses'* role in the network (§5.5.2.1). Other main participants follow, e.g., the *Israelites*, *2MSg*, *an Israelite*, and the *sojourner*. Interestingly, the *blasphemer* appears among the top scorers despite his less than central role in the regular network (cf. §5.5.2.3). *YHWH*

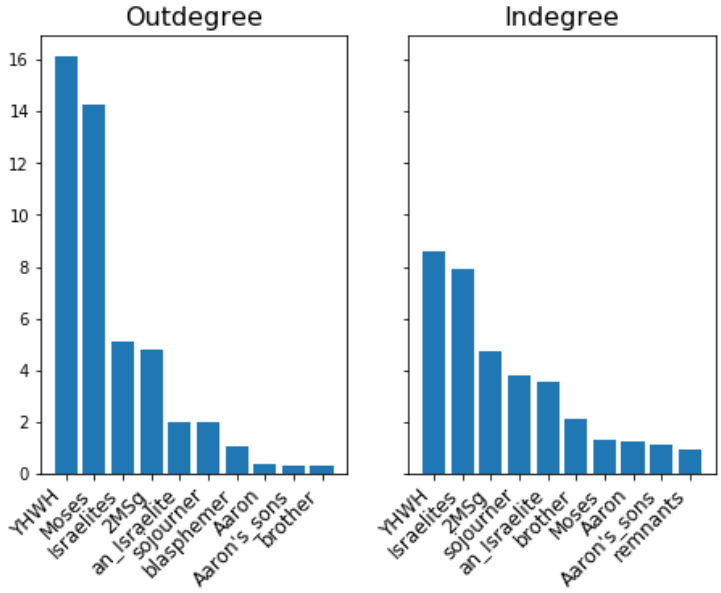

Figure 5.8 Centrality measures of the control network

[242] The number does not correspond to 826 unique participants but to 826 participant references in the interactions controlled by Moses.

also dominates the indegree scores, presumably because he does not only instigate the speeches but also has *Moses* referring to him within the speeches. In other words, *YHWH* is embedded in his own speeches, a phenomenon already discussed in §3.3.6.

5.3.6 Summary

The first explorations into the Holiness Code-network have shown a highly hierarchical network with a small set of very connected participants in crucial positions and a large number of peripheral participants dependent upon intermediating participants for their embeddedness in the network. The addressees of the law code, namely the *Israelites* and *2MSg* (and less frequently, *Aaron* and *Aaron's sons*), occupy central positions in the network. They are very active (high outdegree), and they have direct ties with other important participants, including *YHWH*. *Moses* does not score high in centrality despite his role as the intermediary of *YHWH's* speeches. This observation is curious because one would assume *Moses* to be a central participant. To explain this observation, a third dimension was considered regarding the syntactic hierarchy of Leviticus. It was shown that centrality is a quite different thing when considered from the viewpoint of syntactic structure. In particular, this perspective lent considerably more importance to *Moses* as the second-most controlling participant, only next to *YHWH*. Thus, an SNA of texts should preferably include the structural 'depth' of the text because participants are not only related in terms of interactions but also in terms of their embeddedness in the discourse.

5.4 Role assignment

Complex networks are hard to pin down because the nodes of the network are often related to one another in multiple ways. There may be a diversity of relations between the nodes, as in the H-network where each edge represents an event. A crucial objective of network analysis is therefore to reduce the complexity of the network in order to capture and visualize the most important features. An abundance of methods for network reduction have been proposed and need not be summarized here (Borgatti, Everett, and Johnson 2018; Brandes and Erlebach 2005). The goal of network analysis is the classification of nodes according to their structural position in the network (Lerner 2005). Some nodes are peripheral, others central, and yet others may be 'bridges' and connect otherwise unconnected communities of nodes. Node classification first arose in sociology where the structural roles of nodes were used to explain their social functions. More recently, the emergence of big data and graph theory have led to new explorations into node classification and role discovery, and network analysis has become subject to highly advanced mathematical scrutiny (cf. Rossi and Ahmed 2015).

An abundance of methods has been developed to detect the network roles of nodes. The wealth of methods also reflects the increasing interdisciplinary interest in graphs and networks which implicates that traditional, small-scale sociological models now exist alongside highly advanced computational algorithms for role detection in huge networks. Nevertheless, the methods can be divided into roughly three groups (Rossi and Ahmed 2015): 1) graph-based; 2) feature-based; and 3) hybrid approaches. Firstly, graph-based role detection has been the most common approach among sociologists and is aimed towards detecting roles directly from the representation of the graph. Secondly, feature-based approaches have become increasingly popular with the rise of computational methods. These methods basically involve two steps: 1) transformation of the graph into vectors, each node being described as a vector; and 2) statistical analysis of the vectors for role detection. Thus, in contrast to graph-based methods, feature-based methods only compute roles indirectly from the graph. Thirdly, hybrid approaches combine graph-based and feature-based approaches. In what follows, I shall explore two role detection methods on the H-network. The first of which is a graph-based method called structural equivalence. The second method is a feature-based algorithm called node2vec.

The purpose of this section is not to introduce the applied methods in detail, as this has been done elsewhere. The selected methods will only be introduced in general terms, and the main focus of this section will be on their implications for understanding the participants of H.

5.4.1 Graph-based role discovery

A social network essentially consists of a group of participants connected by various ties. Intuitively, some of the participants appear more similar than others because they have similar roles in the network. In networks of families, for instance, some of the participants are parents while others are children. In order to identify participants with similar roles, social network analysts have developed a range of statistical tools. One of these tools is derived from what is called ‘structural equivalence’ (Lorrain and White 1971).[243] In simple terms, two participants can be said to be structurally equivalent if they have exactly the same ties with exactly the same third-parties. The two participants need not be connected themselves. Sociologists have noted that structurally equivalent participants tend to show a certain amount of homogeneity. As Stephen P. Borgatti, Martin G. Everett, and Jeffrey C. Johnson explain, “one mechanism underlying the relationship between structural equivalence and homogeneity is the idea that persons adapt to their social environments, and therefore actors with similar social environments will tend to have certain similarities” (2018, 240). Now, structural

[243] For a recent explanation of structural equivalence and applied methods, cf. Borgatti, Everett, and Johnson (2018, 240–53).

equivalence is a mathematical ideal clearly defined in theory but a rare phenomenon in real data. In the real world, people rarely have exactly the same relationships, even if they have the same formal roles, e.g., teacher or father. In practice, then, if one wants to examine the social networks of teachers, for example, it is more useful to look for structural *similarities* rather than complete equivalence. Therefore, the concept of structural equivalence has been relaxed in order to cope with real data. Nevertheless, in order to identify similar participants, structural equivalence provides a strong theoretical framework. Essentially, all participants are compared on the basis of their ties to one another. Two structurally equivalent participants would be two participants that have the same ties to the same third parties. Two structurally *similar* participants, on the other hand, would be two participants with a low degree of internal variation. Thus, statistical methods can be applied to cluster participants on the basis of similarity. This type of analysis is frequently conducted with hierarchical clustering, such as the dendrogram in Figure 5.9.[244] Accordingly, all participants of the H-network are grouped into a hierarchy of clusters.

Two major clusters appear: one consisting of *YHWH* and *Moses*, the other consisting of all remaining participants. The *YHWH-Moses* cluster is not strongly cohesive as it exhibits large internal variation. However, they are still more similar to each other than to the rest of the participants. The largest cluster is dominated by a great number of infrequent participants, e.g., the *poor*, the *blind*, the *deaf*, etc. Many of these participants occur only once so they are statistically insignificant. Some of these may be structurally equivalent because they have one third party that happens to be the same. The right side of the dendrogram is more interesting. Firstly, *Aaron* forms a cluster with *Aaron's sons*. This observation is interesting because both participants are priests; hence, there appears to be an integrated group of priests with similar roles. Secondly, *an Israelite* and the *sojourner* form another cluster. This observation is curious because we might expect the two parties to be in opposition. However, this clustering procedure does not take into account the nature of the ties, only the fact that they are tied to the same third parties. Thirdly, a similar relationship is found between the *foreign nations* and the *remnants*, both of which appear in the same context in Lev 26. Due to the complex relationships among the participants (i.e., multiple, directed, and valued ties), it is highly complicated to compare all relationships at once. In the dendrogram above, then, the cluster analysis was carried out on a network of multiple, directed ties, ignoring the values (i.e., the agency scores) of the ties. It

[244] In this analysis, the H-network is considered a network with multiple, directed ties, i.e., the ties between the participants are weighted on the basis of frequency. The values of the ties (e.g., event type or degree of agency), however, are not taken into account. The clustering itself is computed with the 'Ward' algorithm.

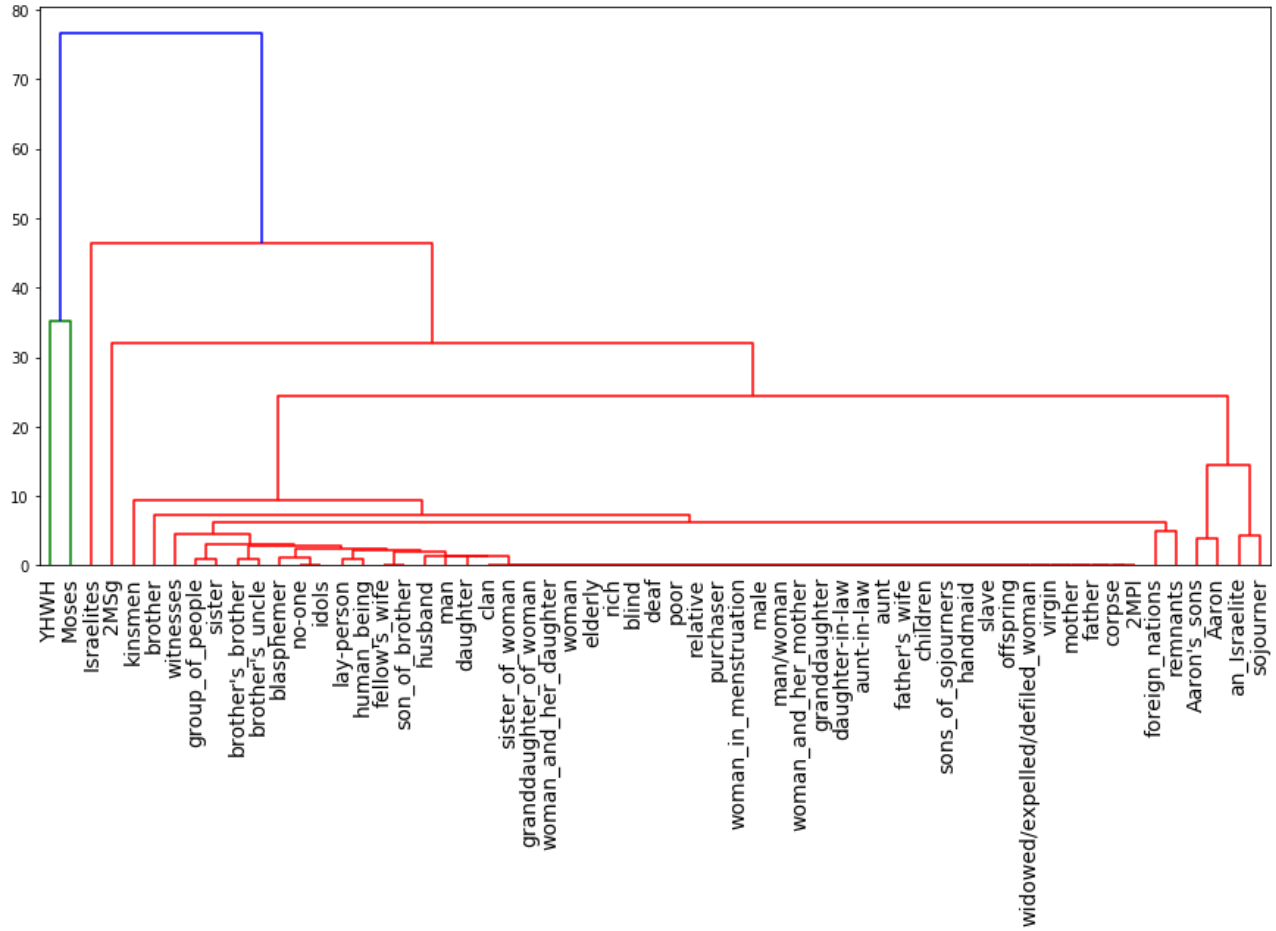

Figure 5.9 A dendrogram of the participants in Lev 17–26. The clustering is computed with the 'Ward' algorithm

is also possible to explore structural similarity with respect to the mean agency score of each relationship in the social network (cf. the semantic hierarchy of semantic roles and corresponding agency scores in §4.5).[245] By doing so, the semantic roles derived in chapter 4 now represent the interactions among the participants; hence, the semantic roles – along with the structural properties of the graph – now function to yield the network roles of the graph. The resulting structural similarity is plotted in Figure 5.10 using Multidimensional Scaling (MDS), a dimension reduction method for high-dimensional data. The graph shows the two dimensions accounting for the most variation in the data. In the graph, accordingly, participants situated closely together are structurally similar in contrast to participants that are situated far from one another. In the center of the plot is a large group of infrequent participants. Their labels have been removed for convenience. Participants causing more variation

[245] Unlike in §4.5, where the mean agency referred to the mean of all interactions pertaining to a particular participant, the mean agency score refers here to the mean of the concrete interactions between pairs of participants with respect to the social network (cf. the computation of combined agency scores in §5.2.5).

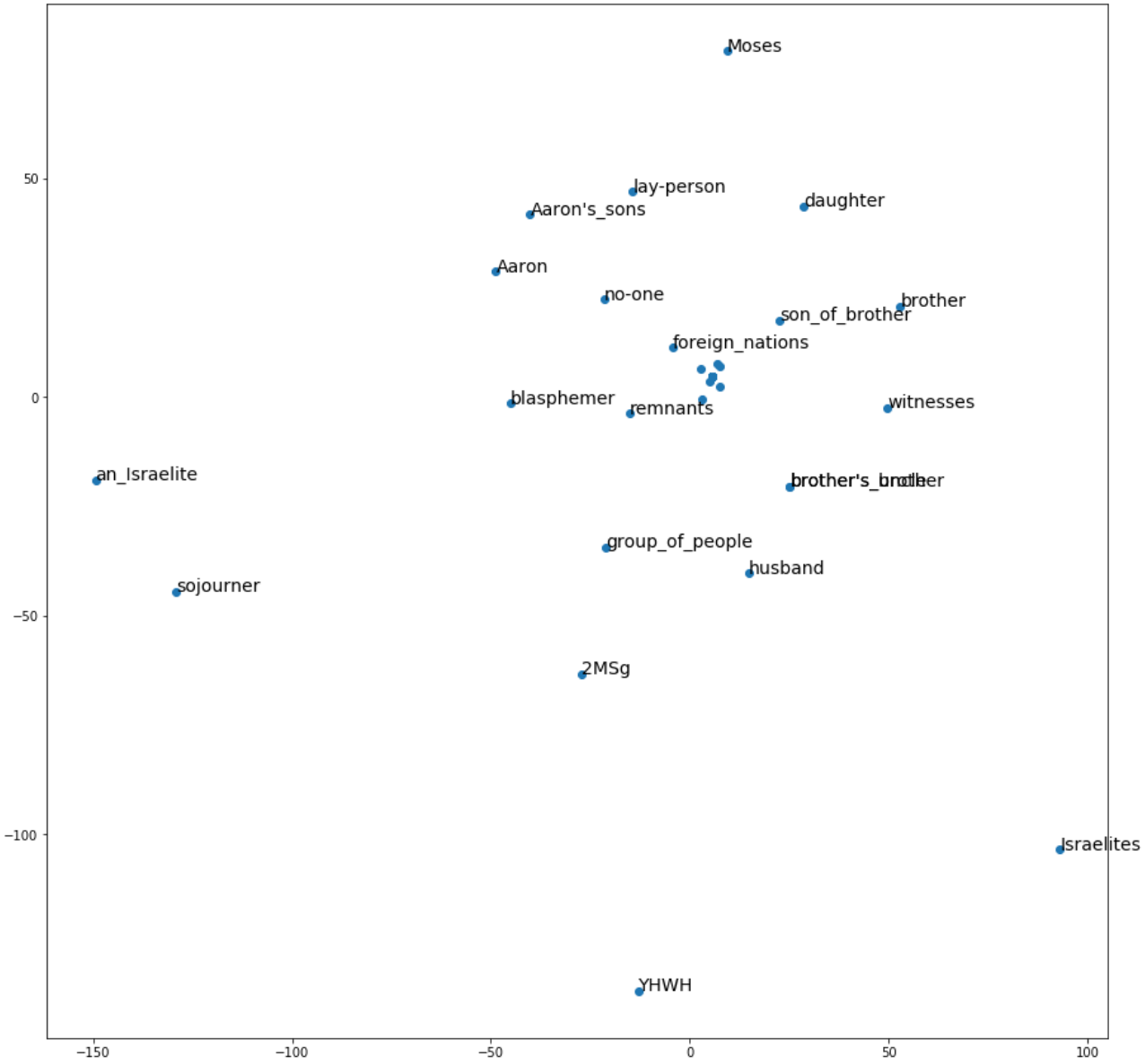

Figure 5.10 MDS of the H-network (edges conceptualized as agency scores)

are situated further from the center of the plot. At the extremes of the plot, therefore, are those participants who are highly distinctive in the network. As we dive into the details of the plot, interesting features become apparent. To begin with, most of the major participants of the network are isolated, in particular the *Israelites* and *YHWH* who lie to the extremes of the plot. However, as with the dendrogram above, *an Israelite* and the *sojourner* occur more closely together. They are thus structurally similar as regards the frequency of ties to the same third parties as well as the agency scores invested in those shared ties. In this plot, *Aaron* and *Aaron's sons* are also situated relatively close to each other. Thus, apart from sharing many third parties, the agency invested in these interactions are

similar. Finally, the *brother's brother* and the *brother's uncle* have a complete overlap. This observation is not unexpected since these participants occur in the same contexts and involve the same third party, the *brother*.

As can be inferred from the dendrogram and the MDS two-dimensional plot, participants that are structurally similar, are not only similar but also proximate (cf. Borgatti and Everett 1992). That is, in order to be structurally similar, the participants need to be proximate in the network because they need to tie in with the same third parties. In some social networks, proximity is indeed an important factor. For instance, in a contagion network, proximate persons are more prone to the same infections because they are exposed to the same persons. However, in other networks, proximity is irrelevant. A teacher has the role of a teacher irrespective of whether he/she is related to the same students as other teachers. In other words, two participants have the same role (e.g., teacher, mother, etc.) because they have the *similar* relationship to participants with *similar* roles (e.g., pupil, child, etc.). This notion of similarity implies an abstraction from structural equivalence because the specific position in the network is no longer important. Two participants may be similar, even if they are not neighbors or second-degree neighbors in the network. There have been several strategies for abstracting from structural equivalence, e.g., 'regular equivalence' where two nodes are considered structurally equivalent if they are connected to the same class of nodes (Borgatti and Everett 1993; cf. D. R. White and Reitz 1983; Audenaert, Colle, and Pickavet 2018). Recently, the methods for abstract role partitioning have exploded, largely thanks to the rise of computer technology and the overwhelming interest in graphs and networks in a variety of research areas, including computer science. Thus, rather than detecting the roles of nodes directly from the graph (i.e., graph-based methods), it has become much more common to transform the graph into vectors by which the structural features of the graph can be coupled with a large variety of other features (i.e., feature-based methods). One of the recent algorithms for transforming graphs into vectors is called node2vec and will be the focus of the next section.

5.4.2 Feature-based role discovery

With the rise of computational methods, new approaches are constantly being developed for classifying node roles and for reducing the complexity of graphs. Many of these new approaches fall under the category 'feature-based role discovery'.[246] Unlike graph-based role equivalence, which is based on the derivation of node properties directly from the graph, feature-based role discovery involves the transformation of the graph into a feature representation to be analyzed. More specifically, each

[246] For an overview of feature-based approaches, cf. Rossi and Ahmed (2015).

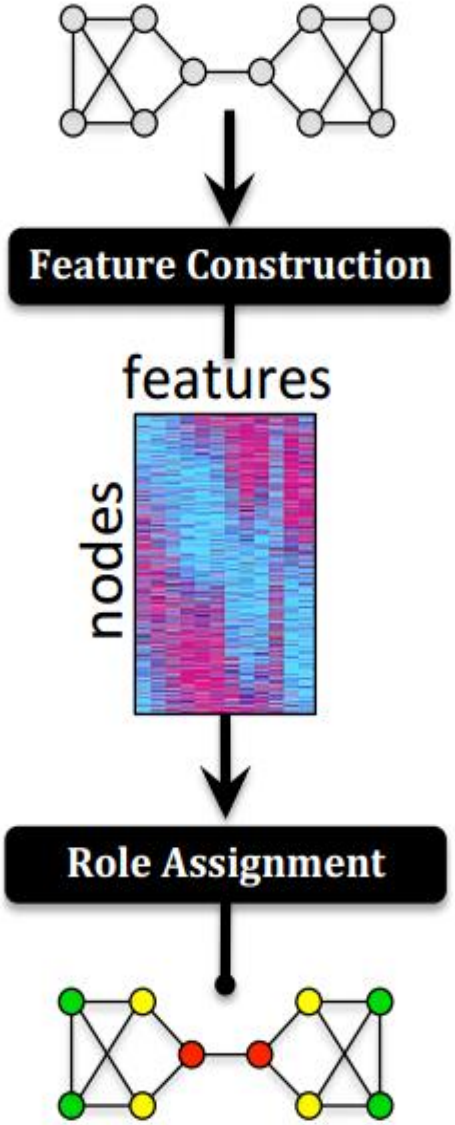

Figure 5.11 General framework for feature-based role assignment (Rossi and Ahmed 2015, 6)

node in the graph is transformed into a vector, and nodes with similar vectors are ascribed the same role (cf. Figure 5.11). In general terms, the approach has two steps: 1) computation of feature vectors on the basis of user-defined criteria; and 2) assignment of roles according to the computed features. The advantage of transforming a graph into a set of vectors is that any node, irrespective of how well it is embedded in the network, is represented in the same shape, and vectors are therefore a well-suited input for machine-learning algorithms. A feature-based approach allows for considering a diversity of data, as the input data are not restricted to the structural properties of the graph, but may also include node values (e.g., attributes of neighbor nodes), edge features (e.g., attributes of the walk from the target node to the neighbor nodes), and non-relational features (attributes that are not

dependent on the relations of the target node) (Rossi and Ahmed 2015).[247] One of the most recent tools for capturing graph features is node2vec, developed by Aditya Grover and Jure Leskovec (2016). In technical terms, it is "a semi-supervised algorithm for scalable feature learning in networks" (Grover and Leskovec 2016, 856). In less technical terms, the method aims at balancing two different concepts of role similarity. The first concept regards homophily, that is, two nodes are considered similar if they belong to the same community within the larger network. As for the second concept, two nodes are considered similar, if they have the same structural role, irrespective of their community. Thus, people from different communities can have the same role within their respective structural neighborhoods (e.g., different teachers largely have the same role, although they have different pupils). This notion of structural role similarity resembles that of regular equivalence mentioned above. Since real-world networks commonly exhibit both types of equivalence, a realistic representation of node equivalence should take both perspectives into account (Grover and Leskovec 2016). As the name suggests, node2vec is an algorithm designed to transform a graph into numerical vectors, each vector representing the features of a node.[248] The features of the H-network relevant for the algorithm include the direction of ties, the number of ties, and the agency values. Being transformed into vectors, the nodes can now be compared by means of traditional statistical methods, including hierarchical clustering, k-means clustering, and MDS. A two-dimensional projection was computed with MDS, as shown in Figure 5.12. Three groups of structurally similar nodes appear, here colored according to a k-means clustering of the vectors. One cluster includes peripheral participants (green), the members of which are most often participants which are undergoers of events.

[247] Here, 'neighbor' is not restricted to the immediate neighbors of the target node. The neighbors may be nodes within a certain distance from the target node. One could even rank the neighbors, so the features of more adjacent neighbors are given greater weight than more distant neighbors.

[248] What sets node2vec apart from most other node-to-vector transformation algorithms is its search strategy. Node2vec is a further development of DeepWalk which was developed to learn the features of a network by performing a series of short random walks through the graph (Perozzi, Al-Rfou, and Skiena 2014). A random walk is a walk from one node to another following a random path of edges (Brandes and Erlebach 2005, 14–15). Node2vec is a further development by applying two additional parameters to be adjusted by the user. The two parameters (p and q) control how fast the random walk explores and leaves the neighborhood of the target node, hence a semi-supervised algorithm. The two parameters seek to balance two different notions of equivalence (homophily vs. connectivity-independent structural roles), e.g., if $q > 1$, the random walk is biased towards exploring the immediate neighborhood of the target node and is thus biased towards similarity in terms of homophily. In short, the different notions of equivalence can be prioritized by adjusting the parameters. For the present purposes, the connection-independent structural roles have been prioritized. The random-walk algorithm was set to walk length = 4, $p = 1$, $q = 1$, and dimensions = 16. 150 walks were conducted. The parameters have been set according to the comprehensive analysis of the algorithm by Hermansen et al. (2017).

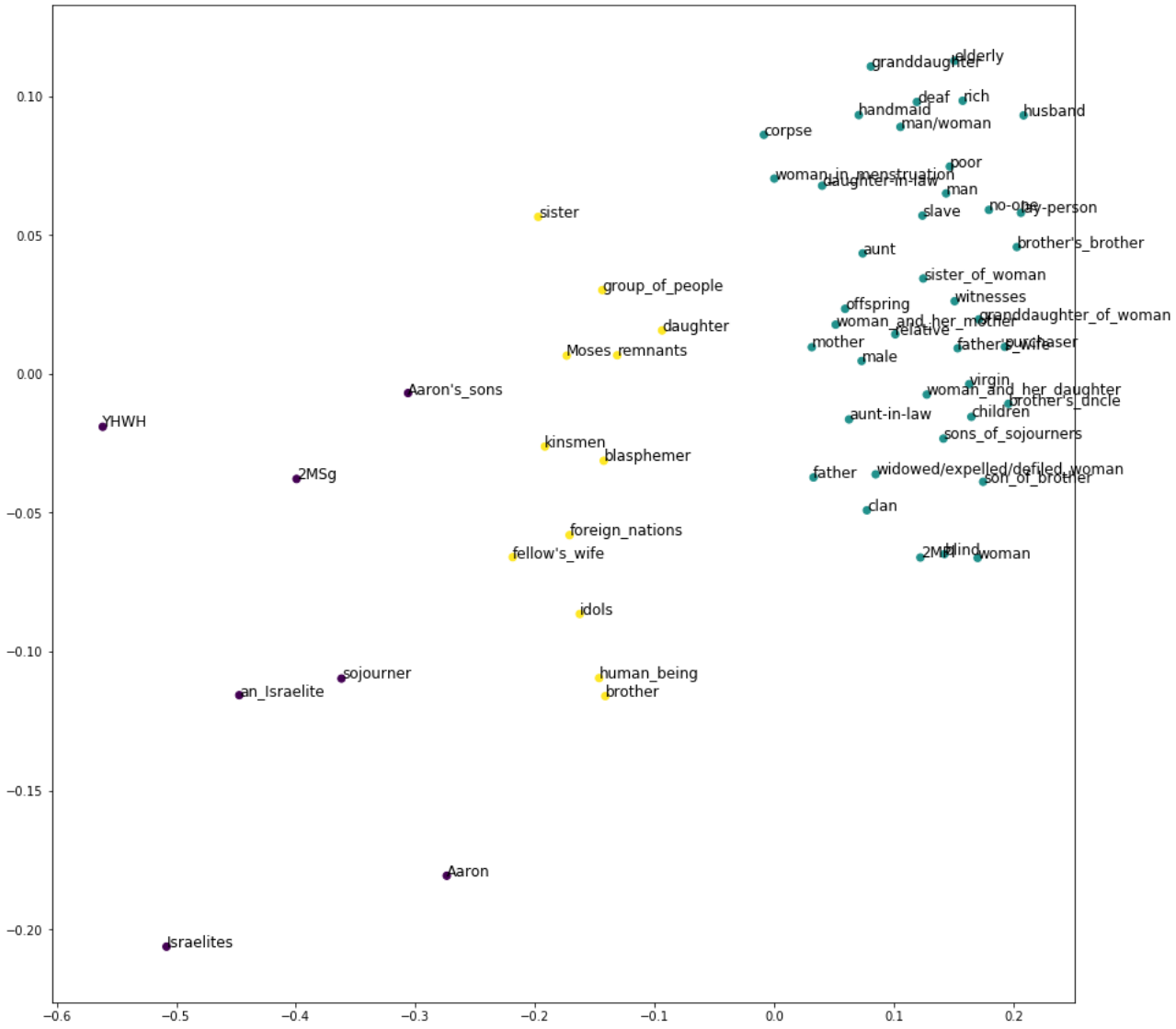

Figure 5.12 Structural role similarity based on feature vectors learned by node2vec

That the participants are peripheral does not necessarily mean that they are socially marginalized, since the *rich* is included in this group. However, most participants may be considered vulnerable, e.g., a woman during her menstruation. Another cluster is formed by the most recurrent participants, namely *YHWH*, *2MSg*, the *Israelites*, *an Israelite*, the *sojourner*, *Aaron*, and *Aaron's sons* (purple). As shown in the figure, these participants are more dispersed than the participants in the green group, testifying to greater diversity among these participants. Nevertheless, the members of this group are characterized by having a core role in the network, that is, they are highly connected with one another as well as with less connected nodes. The last group (yellow) is less easy to characterize. The members of this group include *Moses*, the *blasphemer*, the *daughter*, the *brother*, the *fellow's wife*, among others. They are less frequent than the core participants, but generally more frequent than the

peripheral participants. What characterize this group are the participants' relatively frequent interactions with core participants. They are both recipients and transmitters of events and are therefore more embedded in the network than are the peripheral members. Some of these participants function as bridges between core participants and peripheral participants, e.g., the *brother* who interacts with several core participants, including the *Israelites*, *2MSg*, *an Israelite* and the *sojourner*, as well as peripheral participants, such as the *brother's uncle*, *brother's brother* and *clan* (cf. Figure 5.13).

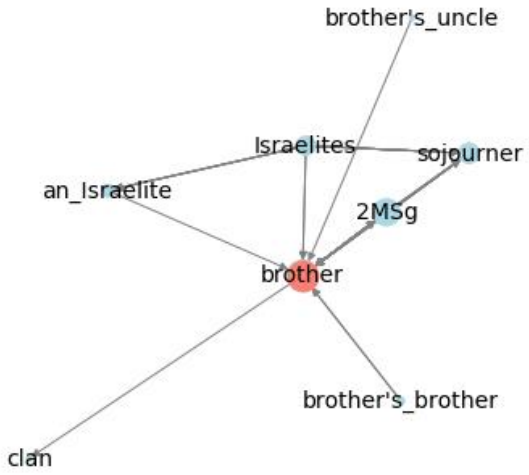

Figure 5.13 Ego-network of the *brother*

5.4.3 Summary

Two methods have been applied to inquire the structural roles of the participants in the H-network. The first of which was a traditional, graph-based method by which the nodes were clustered according to shared third-party nodes and agency scores. While this method revealed a few patterns, most significantly the structural similarity of the priests, *Aaron* and *Aaron's sons*, as well as *an Israelite* and the *sojourner*, the reliance on shared third parties is not suitable for a network like this where participants may have similar roles in the network, even if they are not located in the same neighborhood. To improve the results, another method was applied, the node2vec algorithm. This feature-based algorithm balances two common notions of structural similarity, namely, homophily and connection-independent similarity. The results suggested three major roles: core, intermediate, and periphery. The most frequent and active participants are clustered in the core, while infrequent and often passive participants are found in the periphery. A subset of participants falls in between those groups and is characterized by relatively frequent participants connected to a number of the core participants.

An important question remains. Why do the participants occur in their specific positions in the social network? In other words, what values and expectations underlie the author's recording of case laws and prescriptions of right behavior? These questions will be addressed in the next section where individual participants will be examined according to their structural positions in the network and with an eye to the world view of the author signaled by these positions.

5.5 Law-text roles

Not all 59 participants of the Holiness Code-network will be explored. Instead, informed by the cluster analyses conducted above, which resulted in three distinctive groups of structurally equivalent participants, important representatives from each group will be investigated.

5.5.1 Core participants

There are seven core participants in the network. They are the main literary characters and the most frequently attested participants of Lev 17–26. The group includes *YHWH*, the *Israelites*, *2MSg*, *an Israelite*, the *sojourner*, *Aaron*, and *Aaron's sons*. The distinction between the *Israelites* (2nd Pl), *2MSg* (2nd Sg), and *an Israelite* (3rd Sg) is somewhat arbitrary, since there is a considerable semantic overlap between those participants. However, although they all refer to the people of Israel or members of the Israelite community, each of them may reflect a certain perspective on how the laws relate to different segments of the group. In fact, if Joosten (1996; 1997) is right, the distinction between 'you' in plural (= the *Israelites*) and 'you' in singular (= *2MSg*) bears on a crucial rhetorical thrust. This hypothesis will be tested by projecting each of the participants as individual nodes in the network.

In what follows, all core participants will be discussed with respect to their roles in the network and how their roles relate to the intention ('expectancy', cf. §2.4) of the law and the ethical obligations associated with the participants.

5.5.1.1 YHWH

The most important participant in the Leviticus network is *YHWH*. This claim can be demonstrated by a so-called 'elimination test' (cf. Che 2017). An elimination test measures the resulting density of a network when removing one of the participants. Density is a measure of the cohesion of the network (cf. §5.3.2). Therefore, if the network becomes less dense by removing a certain participant, this participant is important for the cohesion of the network. If that participant would be missing, the network might become fragmented. On the other hand, if the resulting network becomes denser, the participant under consideration is peripheral and not structurally important. Here, elimination tests

are applied to the entire network or a subset of the network (i.e., the ego-networks of particular participants), and the density of the network is computed while excluding one participant at a time. In the end, the participants can be compared with respect to who causes the highest loss or gain of density. The result of the elimination test carried out on the entire H-network is shown in Figure 5.14 where the participants are ordered according to their effect on the network density.

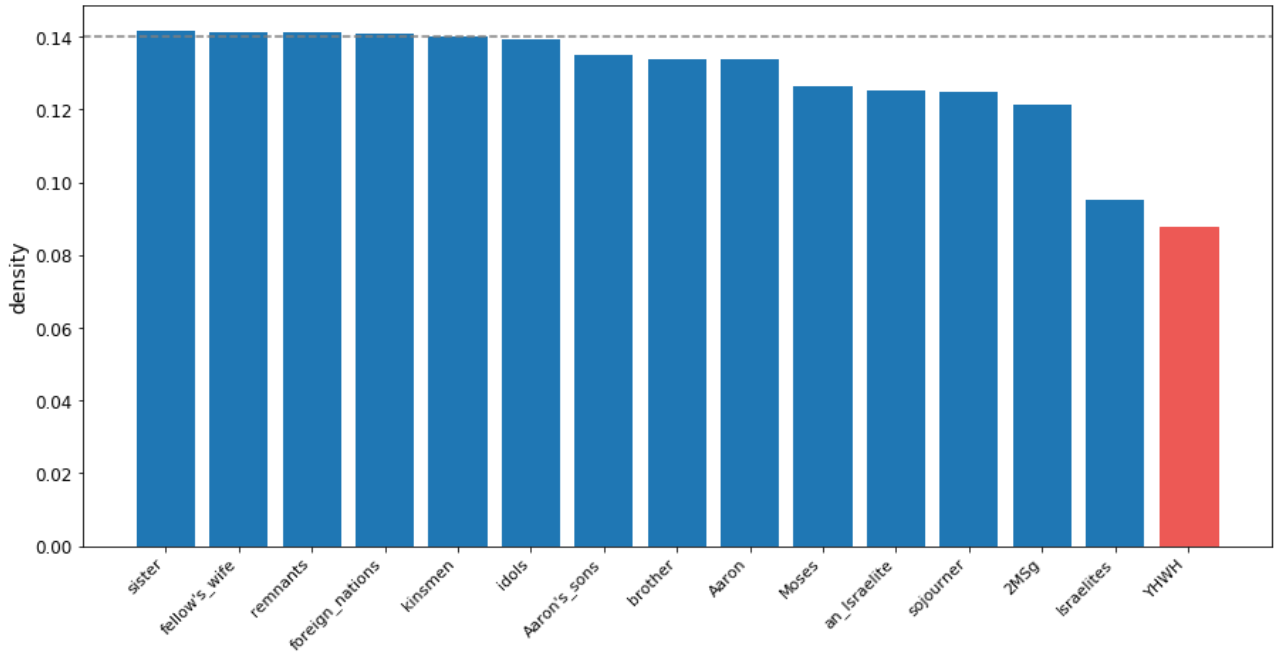

Figure 5.14 Elimination test of the H-network. Only the fifteen most important participants with respect to density are shown. The dashed line represents the original density of the network

As shown in the elimination test, *YHWH* is the most important participant. If he was removed from the network, the resulting density would be smaller than by removing any of the remaining participants. *YHWH* is also the participant involved in most interactions (degree = 191), although he is not related to the most participants. While *YHWH* is connected to fifteen participants, the sojourner and the three different configurations of the Israelites (i.e., the *Israelites*, *2MSg*, and *an Israelite*) are all connected to more participants.[249] Thus, the network is hierarchical insofar as the most important participant, *YHWH*, is only the fifth-most connected participant. By implication, most participants of the network do only have an indirect connection to *YHWH*. A closer look at the participants interacting with *YHWH* reveals that he interacts with all other core participants, six intermediate participants (*Moses*, *kinsmen*, *foreign nations*, *remnants*, *blasphemer*, *group of people*) and three peripheral participants (*corpse*, *2mp*, and *lay person*). By contrast, *2MSg* is only connected to three other core participants, five intermediate participants, and nineteen peripheral participants. In fact, *YHWH* is the only participant who

[249] *2MSg* has 27 different connections, while the *Israelites* have 26, *an Israelite* 21, and the *sojourner* nineteen.

is connected to all other core participants. For that reason, it is safe to conclude that the divine speaker is in fact the most important figure in terms of network cohesion. At another level, moreover, *YHWH* is even more significant. If the syntactic structure of the text is taken into account, *YHWH* is by far the most important participant, because almost all recorded interactions in Lev 17–26 are the products of the divine speeches. This dimension will be unfolded below (§5.5.2.1).

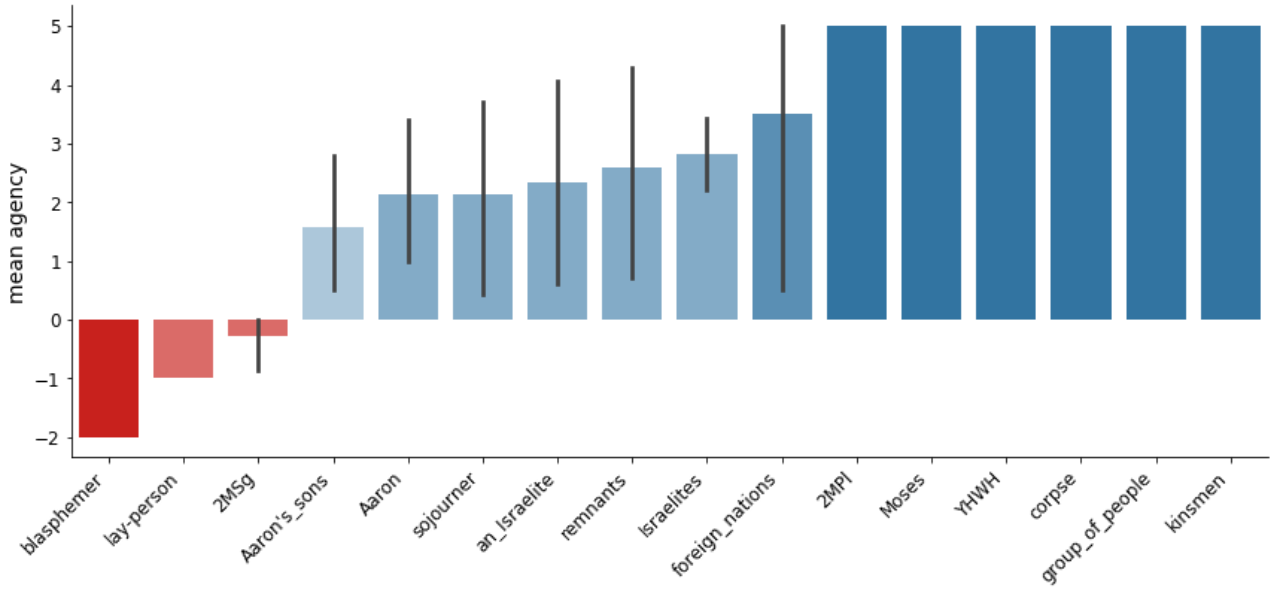

Figure 5.15 Mean agency invested by *YHWH* in all his interactions. The black bars show the confidence intervals (95%)[1]

YHWH obtains a variety of roles in his interactions. Figure 5.15 shows the mean agency scores invested by *YHWH* in all his relationships. To begin with, *YHWH* is a patient or a volitional undergoer in his interactions with the *blasphemer*, the *lay person*, and *2MSg*. The *blasphemer* curses *YHWH* which makes *YHWH* the patient of the interaction (-2 in agency) (24:11), and this interaction is never directly returned. The *blasphemer* is punished but not directly so by *YHWH*. Other participants are directly punished by *YHWH* resulting in high agency scores for *YHWH*. These participants include a *group of people* (20:5), the *sojourner* (17:10; 20:3, 5, 6), and *an Israelite* (17:10; 20:3, 5, 6; 23:30). *YHWH's* one interaction with the *lay person* results in a negative agency score because *YHWH* is portrayed as the recipient of a sacrifice (22:21). By contrast, the interactions with *2MSg* are more diverse, since *YHWH* is sometimes depicted as a participant in threat of defilement (18:21; 19:12) and sometimes as someone to be feared (19:14, 32; 25:17, 36, 43). Interestingly, no interaction between *YHWH* and *2MSg* is recorded where *YHWH* is the actor. By contrast, the relationship between *YHWH* and the *Israelites* (the collective reference to the people) is more varied. In most cases, *YHWH* is the recipient or

benefactor of an event, mostly sacrifices.[250] However, *YHWH* is also someone to be listened to (26:14, 18, 21, 27) and to be considered holy in the midst of the *Israelites* (22:32). Therefore, the *Israelites* are not to "walk in opposition" (i.e., be resistant or stubborn) with *YHWH* (26:21, 23, 27), nor to defile his name (22:32), e.g., by abusing his name in a false oath (19:12). Rather, they have to let themselves be admonished by *YHWH* (26:23), so that he will not abhor them (26:11, 30). *YHWH* is also frequently recorded as the actor in his interactions with the *Israelites*. On the positive side, he is portrayed as the God, who made the *Israelites* go out of Egypt (19:36; 22:33; 23:43; 25:38, 42, 55; 26:13) and made them live in booths in the wilderness (23:43). He also removed the previous inhabitants of the promised land (18:24; 20:23) to let the *Israelites* inhabit the land (18:3; 20:22, 24; 23:10; 25:2, 38). He will bless the people (25:21), e.g., by making them fertile (26:9), and he will establish a covenant with them (26:9), place his sanctuary in their midst (26:11) and walk among them (26:12). The latter expression is likely an allusion to God's presence with Adam and Eve in the garden of Eden (Harper 2018, 194–95). He sanctifies the *Israelites* (20:8; 22:32) and provides blood for atonement (17:11). Just as he separated the people from the surrounding foreign nations (20:24, 26), he has separated clean animals from unclean for the benefit of the people (20:25). A few times *YHWH* is also recorded as speaking directly to the *Israelites* (17:12, 14; 20:24). On the negative side, *YHWH* responds to the unfaithfulness of the people by punishing them (26:16, 21, 24), in particular by sending wild animals (26:22), famine (26:26), sword (26:25, 33), and plague (26:25). He admonishes the *Israelites* (26:18, 28) and walks in opposition with them (26:24, 28) as they do with him. Finally, he even threatens to scatter the people among those nations from which they were separated (26:33). The conflict between the *Israelites* and *YHWH* is carried on by the *remnants* of the people who eventually confess their sins and humble their hearts (26:40–41).

The connection between *YHWH* and *Moses* is simple because the only type of interaction recorded is the recurrent speech from *YHWH* to *Moses*. As will be demonstrated below, this type of interaction leaves *Moses* in a quite distinct, intermediary role (cf. §5.5.2.1). The relationship between *YHWH* and the *sojourner* will also be discussed later (§5.5.1.3). The priests, *Aaron* and *Aaron's sons*, are connected to *YHWH* primarily by means of the sacrifices of which *YHWH* is the recipient (22:22 (×2), 24, 29; 23:11, 20).[251] Moreover, the priests are prohibited from defiling the name of *YHWH* (21:6; 22:2, 32). *YHWH*, on the other hand, is portrayed as sanctifying the priests (21:15, 23; 22:9, 16, 32), but he also threatens the offspring of the priests to be to "cut off" (נִכְרְתָה NI) if they mistreat the

[250] 17:5; 19:5; 22:2, 3, 15, 22 (×2), 24, 29; 23:8, 16, 25, 27, 36 (×2), 37, 38, 40.

[251] Other related cultic activities are the kindling of the golden lampstand and the arranging of the twelve breads (24:3, 8).

sacrifices of the people (22:3). Finally, the priests are included in the large group of people brought out of Egypt by *YHWH* (22:33).

In sum, *YHWH* is the central-most participant insofar as he is the participant involved in most interactions and the only participant connected to all other core participants. He is not the participant connected with most participants, but he entertains a large variety of roles in those interactions in which he is involved. He is frequently depicted as a recipient of sacrifices but also once as a patient of cursing. He is a speaker and a direct causer of extinction. The relationship with the *Israelites* is probably the most complex relationship in the whole network because of the dynamics of blessing and curses particularly unfolded in Lev 26. This perspective will be unfolded below.

5.5.1.2 The people

H refers to the people of Israel in many ways. Apart from a few outsiders, including the *sojourner*, the *handmaid*, and the *foreign nations*, all participants are presumably part of the people. More specifically, the people is addressed in either plural or singular. It has been argued that the participant shifts between plural and singular are a rhetorical device (cf. §3.3.7). Although the participant shifts do not implicate a semantic difference, the different rhetorical aspects pertaining to each of the participant references are worth exploring in depth. Thus, the distinction is retained in the H-network where the two types of references are conceptualized as individual participants. It is the objective of the network analysis to explore whether the distinction bears on subtle differences in the characterization and the roles of the participants. In particular, two aspects will be discussed. Firstly, is there any difference in terms of content and agency with respect to those relationships that are shared by the two participants? Secondly, what do the non-shared relationships implicate for the characterization of the two participants?

The *Israelites* and *2MSg* share fourteen relationships, several of which are the result of a single verse (Lev 18:6): "You (Pl) may not approach anyone near of kin". This expression functions as a summary statement of the following incestual laws in Lev 18, and as a result of the semantic hierarchy of the participants, all family members in this list of laws are subsumed under "anyone near of kin" (cf. §3.3.9).[252] Consequently, the interactions and the agency invested are the same with respect to this group of shared relationships except for *father*, *mother*, and *brother*. The remaining shared participants are *YHWH*, the *idols*, *Aaron's sons*, the *sojourner*, and the *fellow's wife*. The *Israelites* and

[252] The shared family members include *mother*, *father*, *sister*, *brother*, *father's wife*, *daughter-in-law*, *aunt*, *aunt-in-law*, and *granddaughter*.

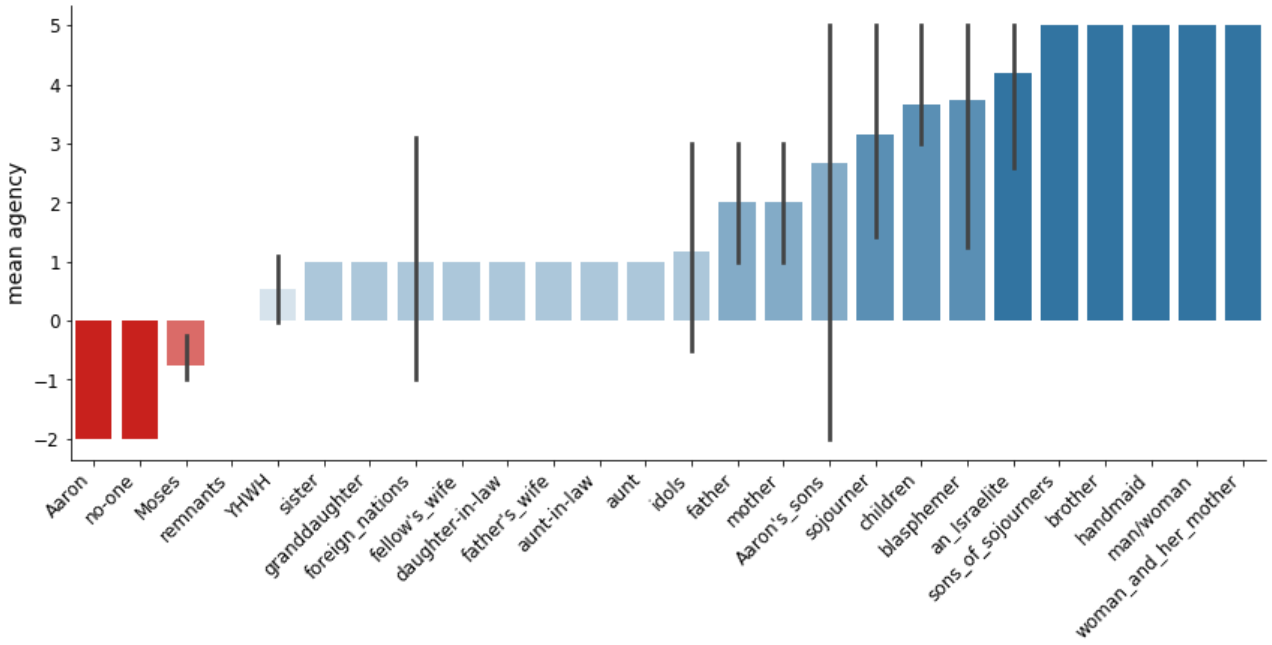

Figure 5.16 Mean agency invested by the *Israelites*

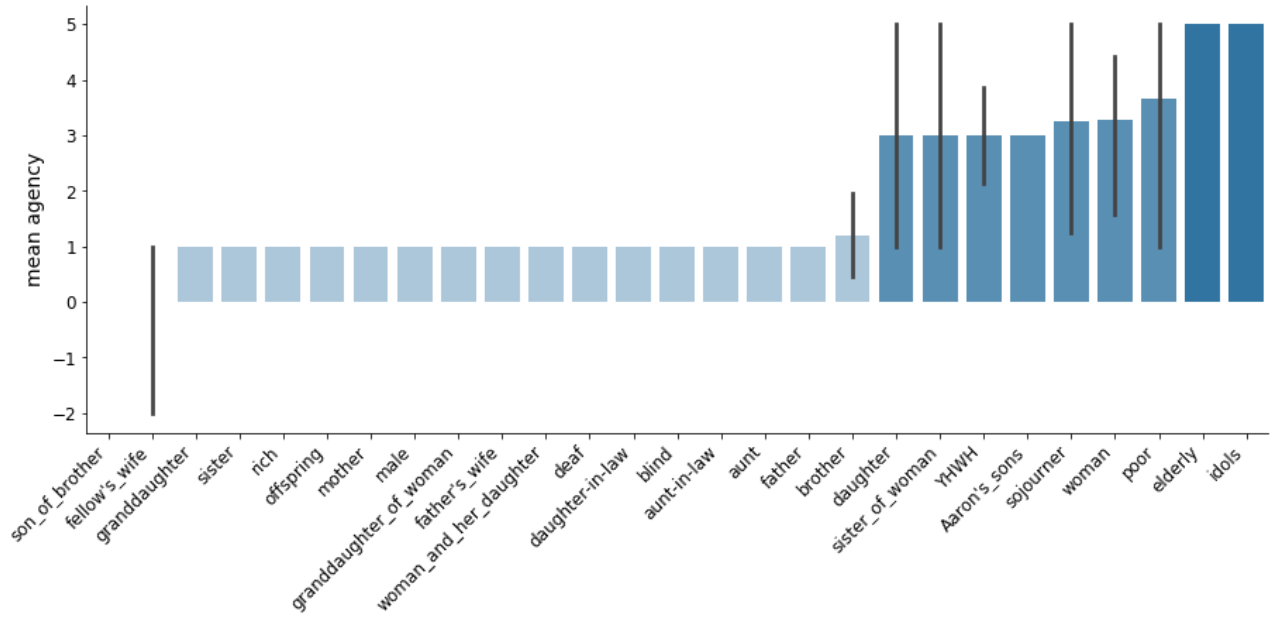

Figure 5.17 Mean agency invested by *2MSg*

2MSg relate quite differently to *YHWH* as described above (§5.5.1.1), since the *Israelites* have a much more substantial and dynamic relationship with *YHWH* than does *2MSg*. This difference may explain the difference with which the two participants interact with the *idols* (including Moloch (18:21), goat-demons (17:7), idols (19:4), as well as dead spirits and soothsayers (19:31)). While *2MSg* is only prohibited from giving his son to Moloch (18:21), the *Israelites* are warned against sacrificing to the

goat-demons, attending dead spirits and soothsayers, and casting idols. The latter practice, in particular, stands in a marked contrast to the right worship of *YHWH* (19:2–3). Therefore, because the relationship between the *Israelites* and *YHWH* is more substantial, the relationship with the idols is also more explicated in order to contrast right and false worship. The same context in Lev 19 also includes the command to fear one's *father* and *mother* (Lev 19:3). In this case, the law is directed to the *Israelites* as a group, the reason for which may be the context of right worship of *YHWH*. As for the interactions with *Aaron's sons*, the priests, the two participants differ slightly. While the *Israelites* are recorded as bringing sacrifices to the priests (Lev 17:5; 23:10), *2MSg* is commanded to consider the priests holy (21:8), depending on how the reference is interpreted (cf. §3.3.5).

The mean agencies of the *Israelites* and *2MSg* in their interactions with the *sojourner* are similar, although both scores show internal variation indicating diverse interactions. Interestingly, *2MSg* is consistently commanded to show love and compassion towards the *sojourner* (19:10, 34; 23:22), whereas the actions of the *Israelites* are more varied. While they may not oppress the *sojourner* (19:33), they are nevertheless commanded to execute death penalty for idolatry and blasphemy (20:2, 14; 24:16). Again, the difference can be explained in light of the relationship with *YHWH*. As a group, the *Israelites* have to take responsibility for the right worship of *YHWH*.

The *Israelites* and *2MSg* are related quite differently to the *brother*. While the *Israelites* have no interactions with the *brother* apart from a general description of a transaction between the two parties (25:14),[253] *2MSg* is repeatedly commanded to love and care for his *brother*, or fellow, and treat him with justice.[254] This difference supports Joosten's claim that exhortations to the individual concern individual relationships.

The *Israelites* and *2MSg* each have a number of unique relationships. There is a striking contrast between these relationships, since all of *2MSg*'s thirteen unique relationships regard individual, unnamed members of the society, including family members.[255] The *Israelites* have twelve unique relationships, two of which resemble the individual, unnamed members of the society related to *2MSg*.[256] The *Israelites* are also related to concrete individuals, namely, *Moses*, *Aaron*, and the *blasphemer*, whose mother is named (24:11). The only interaction with *Aaron* recorded, however, is in a context where *Aaron* and his offspring are warned not to eat the sacrifices of the *Israelites* which

[253] This single case of interaction between the *Israelites* and the *brother* may be due to the parallel structure of the verse where two plural references envelope two singular suffixes (Jensen 2019).

[254] 19:13, 15, 16, 17 (×3), 18 (×2); 25:15, 35 (×2), 36 (×2), 37, 39, 43, 46.

[255] These relationships include the *deaf*, *blind*, *poor*, *rich*, *daughter*, *elderly*, *woman*, *son of brother*, *granddaughter of woman*, *sister of woman*, *woman and her daughter*, *offspring*, and *male*.

[256] The *woman and her mother* and *man/woman*.

would cause the *Israelites* to incur guilt (22:16). The relationship with *Moses* will be discussed below (§5.5.2.1). The connection with the *blasphemer* follows the pattern observed above where the *Israelites* as a community are commanded to execute death penalty for blasphemy.[257] The same kind of interaction pertains to the relationship with *an Israelite* who must be executed as punishment for child sacrifice (20:2, 4, 14) or blasphemy (24:16).[258] Three of the *Israelites'* unique relationships regard relationships with outsiders, including the *foreign nations* (that is, foreigners from surrounding countries, as well as enemies), the *sons of sojourners*, and the *handmaid* of foreign descent. The relationship with foreign peoples is dynamic. On the one hand, the *Israelites* can buy *handmaids* from the *foreign nations* (25:44) as well as chattel slaves, labeled *sons of sojourners* (25:45, 46). Moreover, as part of the covenantal blessings given in Lev 26, the *Israelites* are promised to be able to pursue and fight down their enemies from the surrounding nations (26:7, 8). On the other hand, if the *Israelites* fail to obey *YHWH*, the *foreign nations* will now pursue and fight down the *Israelites* (26:17, 25, 38). These interactions support the idea that the people are addressed as a group in cases of foreign affairs. Moreover, the dynamic relationship with the foreigners is placed in a context of curses and blessings as implications of the relationship between *YHWH* and the people.[259]

In sum, the network analysis largely supports and qualifies Joosten's thesis of a pragmatic distinction between community and individual in H. For one thing, the unique relationships of the *Israelites* are qualitatively different from those of *2MSg* in that they include relationships with concrete, named participants as well as non-domestic participants. On the other hand, both the *Israelites* and *2MSg* have relationships with the *father* and the *mother* as well as other domestic participants. The most important difference is that the recorded interactions between the *Israelites* and *YHWH* are much more substantial than those between *2MSg* and *YHWH*. The individual Israelite (the *2MSg*) is to fear *YHWH* and be cautious not to defile his name, but the responsibility of right worship lies with the people as a whole. Thus, capital punishment is the responsibility of the people as a community, and they are to collectively reject blasphemy, child sacrifices, and worship of demons and other deities.

[257] The interactions are recorded in 24:14, 23 (×2).

[258] The punishment applies to *an Israelite* as well as the *sojourner* (cf. §5.5.1.3).

[259] The remaining unique relationships of the *Israelites* include the *children* (25:46; 26:29), the *remnants* of the *Israelites* (26:36, 39), and *no-one* (26:17). While the latter is hardly a participant at all, the *children* are the *Israelites*' *children* whom the *Israelites* are threatened to be forced to eat due to hunger because of their rebellion against *YHWH*. The relationship with the *remnants* is not interesting in terms of interaction, because the 'interaction' is only one of qualification.

5.5.1.3 *The sojourner*

One of the most curious participants of the H-network is probably the *sojourner*. Despite generally being considered a person on the margins of society, the sojourner appears prominently in the core of the network. Many laws apply equally to the *sojourner* as to the native *Israelite* (cf. 18:26; 24:22). However, the *sojourner* is never directly addressed, so it is not accurate to handle the *sojourner* and the *Israelites* alike. The *sojourner* is clearly not thought of as belonging to the plural 'you' (the collective *Israelites*), because the *sojourner* is specified as residing "in your midst" (Lev 18:26).

The structural importance of the *sojourner* can be computed by conducting an elimination test of the *sojourner* and his ego-network. The result of the test is illustrated in Figure 5.18 below. It should be noted that the *Israelites* are merged from *Israelites*, *2MSg*, and *an Israelite* in this part of the analysis because it is less important to distinguish different notions of the native Israelites (e.g., plural and singular) than to distinguish the native Israelites and the *sojourner*. In the elimination test, therefore, the *sojourner* is found to be only the third most important participant within his ego-network. The *Israelites* and *YHWH* are far more important, and the density of the network would drop drastically if they fell out. On the other hand, the *sojourner* is more important than the *brother*, among many other participants.

The *sojourner* and the *Israelites* are related to many of the same participants. In fact, all connections of the *sojourner* are shared by the *Israelites*, and this fact explains why the density of the

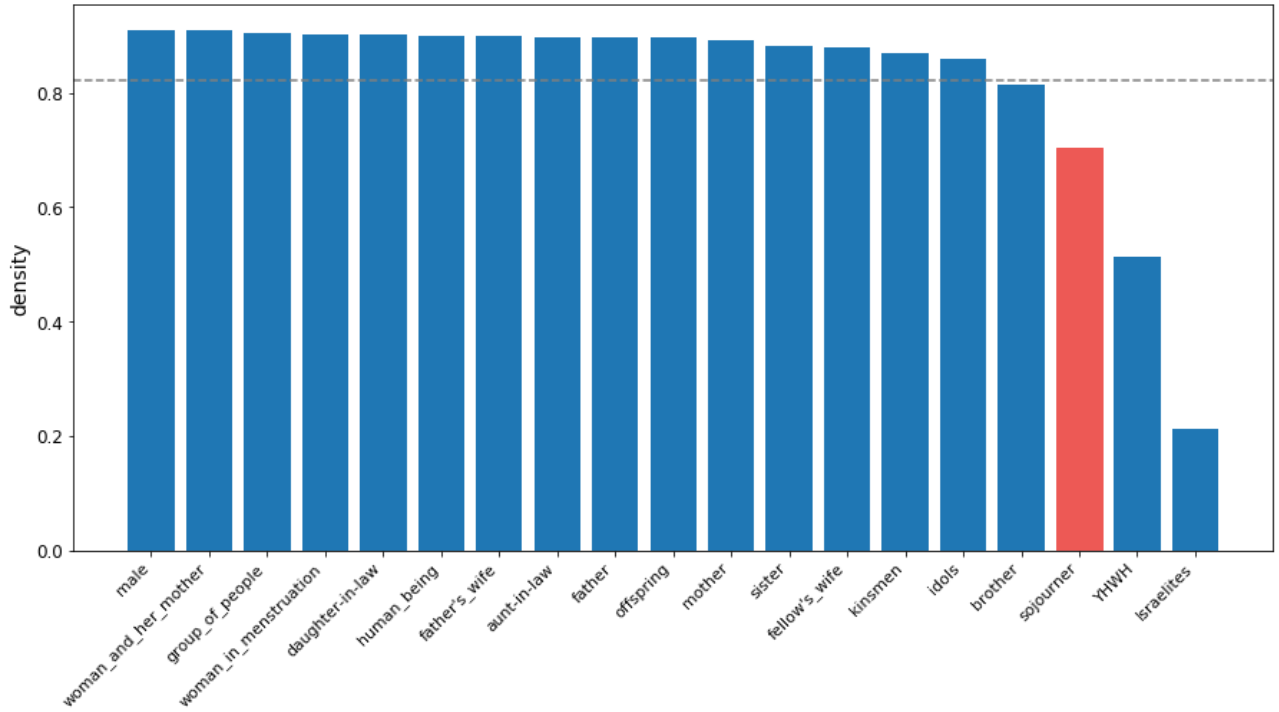

Figure 5.18 Elimination test of the *sojourner's* ego-network

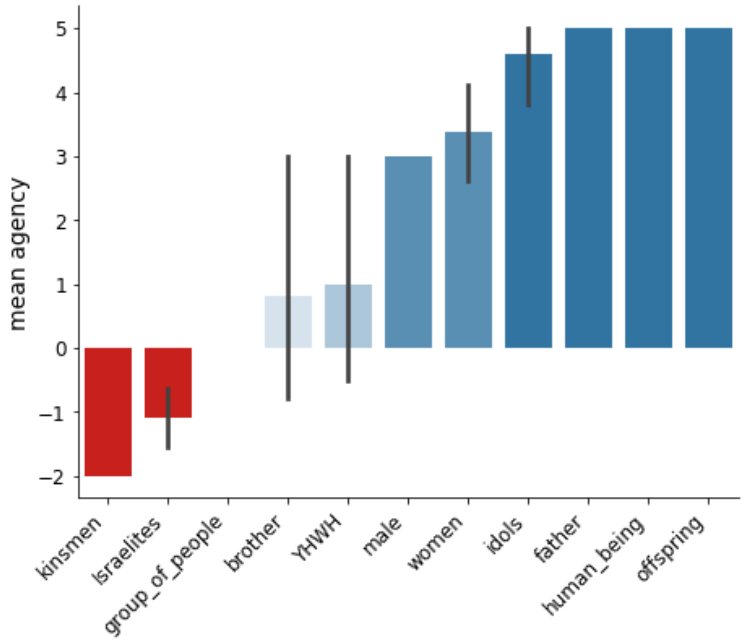

Figure 5.19 Mean agency invested by the *sojourner*. The *women* comprise all female participants in the network

network only decreases slightly if the *sojourner* falls out. By contrast, the *Israelites* have ties that are not shared by the *sojourner*. Moreover, the internal relationship between the *sojourner* and the *Israelites* is markedly asymmetric. The *sojourner* is never the instigating participant in the interactions with the *Israelites*. By contrast, the *Israelites* have many outgoing ties to the *sojourner*.[260] The ties are of very different kinds and include the command to leave remains from the harvest to the *sojourner* (Lev 19:10; 23:22) and the prohibition against oppressing *sojourners* living among the *Israelites* (19:33). As a more general command, the *Israelites* are commanded to love the *sojourner* (19:34). However, if the *sojourner* partakes in child sacrifices to Moloch (Lev 20:2, 4), blasphemy (24:16), or incest (20:14), the *Israelites* are commanded to execute him.[261] The *sojourner* is not granted this legal right or duty, so we see here a marked difference between the legal rights of the

[260] 19:10, 33, 34; 20:2, 4 (×2), 14; 23:22; 24:16.

[261] Strictly speaking, it is not the plural addressees who must execute capital punishment (20:2, 4), but the עַם הָאָרֶץ ‘the people of the land’. The term ‘the people of the land’ has attracted attention, because it functions elsewhere as a technical term referring to an active political group in the history of the Judaic monarchy (Joosten 1996, 42). Within the context of Leviticus, it has been argued that the term refers to “the male populace at large” (Milgrom 2000, 1730) or ordinary citizens in contrast to elders and judges, cf. Lev 4:27 (Wenham 1979, 278; Hartley 1992, 333). The parallel between עַם הָאָרֶץ ‘the people of the land’ and הָעֵדָה ‘the congregation’ has been noted (Joosten 1996, 44). Thus, it is generally accepted that ‘the people of land’ is used non-technically in Leviticus as a reference to native Israelites as opposed to non-Israelite sojourners.

sojourner and those of the *Israelites*. The asymmetry is supported by the mean agency scores illustrated in Figure 5.19. In his interactions with the *Israelites*, the *sojourner* is generally the undergoer. An SNA should not focus exclusively on the ego and its alters. Equally important – and often more informative – are the ties among the alters. For instance, if two alters become enemies, the enmity would affect the relationships between the ego and each of the two alters because the ego would likely need to pick side.

The two most important participants in the ego-network of the *sojourner* are the *Israelites* and *YHWH*. A closer look at the ties between these two participants and the *sojourner* reveals that the *Israelites* have many more and more important ties with *YHWH* than does the *sojourner*. The *sojourner* is portrayed similarly to the *Israelites* to the extent that he can offer sacrifices to *YHWH* and that he can potentially defile or blaspheme the name of *YHWH*.[262] However, the references to the *Israelites* offering sacrifices are much more numerous, partly because the *sojourner* is not mentioned in the speeches concerning the holy convocations (Lev 23).[263] Therefore, although the *sojourner* can partake in the cult, his participation is presumably limited to common sacrifices. Moreover, only the *Israelites* are portrayed as being expected to listen to *YHWH* (26:14, 18, 21, 27) and to be admonished by him (26:23). The actions from *YHWH* to the *Israelites*[264] are also more numerous and qualitatively different than the actions from *YHWH* to the *sojourner*. As for the relationship between *YHWH* and the *sojourner*, all actions instigated by *YHWH* concern punishment.[265] To be sure, *YHWH* does also threaten the *Israelites* with severe punishments for violating the divine laws.[266] But the overall image of the relationship between *YHWH* and the *Israelites* is one of greater complexity. On the one hand, *YHWH* intends to bless the *Israelites* for their faithfulness by commanding his agricultural blessings upon them (25:21) and by making them fruitful (26:9) and numerous (26:9). On the other hand, *YHWH* also threatens the *Israelites* with chastise (26:18, 28) and curses, such as plague (26:25), wild animals (26:22), and exile (23:33) if they do not obey him. Thus, *YHWH's* punishments, despite their harshness, are more nuanced than mere annihilation. The *Israelites* are pictured as children who need to be

[262] 17:9; 20:3; 22:18; 24:15, 16. The *Israelites* have many more outgoing ties to *YHWH*: 17:5, 9; 18:21; 19:5, 12 (×2), 14, 32; 20:3; 22:2, 3, 15, 18, 22 (×2), 24, 29, 32 (×2); 23:8, 16, 25, 27, 36 (×2), 37, 38, 40; 24:15, 16; 25:17, 36, 43; 26:11, 14, 18, 21 (×2), 23 (×2), 27 (×2), 30.

[263] In fact, it is explicitly stated that the אֶזְרָח 'native' is supposed to celebrate the Feast of Booths by living in booths for seven days (Lev 23:42). By implication, the sojourner is not supposed to participate in this feast.

[264] 17:10, 11, 12, 14; 18:3, 24; 19:36; 20:3, 5, 6, 8, 22, 23, 24 (×3), 25, 26; 22:32, 33; 23:10, 30, 43 (×2); 25:2, 21, 38 (×2), 42, 55; 26:9 (×3), 11, 12, 13 (×2), 16 (×2), 17, 18, 21, 22, 24 (×2), 25 (×2), 26, 28 (×2), 33 (×2), 46.

[265] 17:10; 20:3, 5, 6.

[266] 17:10; 20:3, 5, 6; 23:30; 26:16 (×2), 17, 18, 21, 22, 24 (×2), 25 (×2), 26, 28 (×2), 33 (×2).

disciplined. When comparing the *sojourner* and the *Israelites*, we should keep in mind that the sojourner is portrayed as an individual, while the *Israelites* sometimes refer to an individual (who can certainly be annihilated, cf. 17:10; 20:3, 5, 6) and sometimes to the people at large. It is the people at large which is said to be disciplined and not the individual Israelite. The composite picture of the relationship between *YHWH* and the *Israelites* is based on the covenant between these two parties. The *sojourner* is never said to be freed from slavery in Egypt. By contrast, the *Israelites* are repeatedly reminded of their status as liberated slaves.[267] As liberated slaves, the *Israelites* are separated from the nations as a unique community (20:24, 26), and *YHWH* sanctifies the people and considers them his own (20:8; 22:32).

To sum up, then, the overall picture of the *sojourner* is somewhat complex. On the one hand, he is certainly more agentive than peripheral participants, such as the *women* (§5.5.3.1) of the text, and the *brother* (§5.5.2.2). On the other hand, *YHWH* and the *Israelites* are much more important in the network, which makes sense because *YHWH* is the ultimate speaker of the speeches, and the *Israelites* are the most common addressees of the speeches. However, the *sojourner* interacts with both *YHWH* and the *Israelites* and these interactions situate the *sojourner* safely in the core of the network. Still, the relationship between *YHWH* and the *Israelites* is stronger and more complex in that it involves both blessings, disciplining and curses. First and foremost, the relationship between *YHWH* and the *Israelites* is unique because it has its basis in a covenant.

5.5.1.4 The priests

The priestly class is formed by the high priest *Aaron* and his sons, labeled *Aaron's sons*. Although one might expect a book like Leviticus to emphasize the role of the priests (which is indeed the case in the first half of the book), in this part of the book, the priests serve a less central role. Elimination tests show that both *Aaron* and *Aaron's sons* are only the fourth most important participants in their respective networks. By removing *YHWH*, the *Israelites*, or *Moses*, the networks become less cohesive than by removing any of the priestly participants. In fact, the removal of *Aaron's sons* results in a more cohesive ego-network, a fact that indicates the less important structural role of this participant. If the two participants are combined in a node called *priests*, the structural importance of the priestly participants increases, as shown Figure 5.20.

The *priests* interact with a range of participants, most frequently their relatives (*daughter*, *father*, *mother*, *offspring*, and *relative*, the latter of which is the virgin sister of a priest), and

[267] 19:36; 22:33; 23:43; 25:38, 42, 55; 26:13.

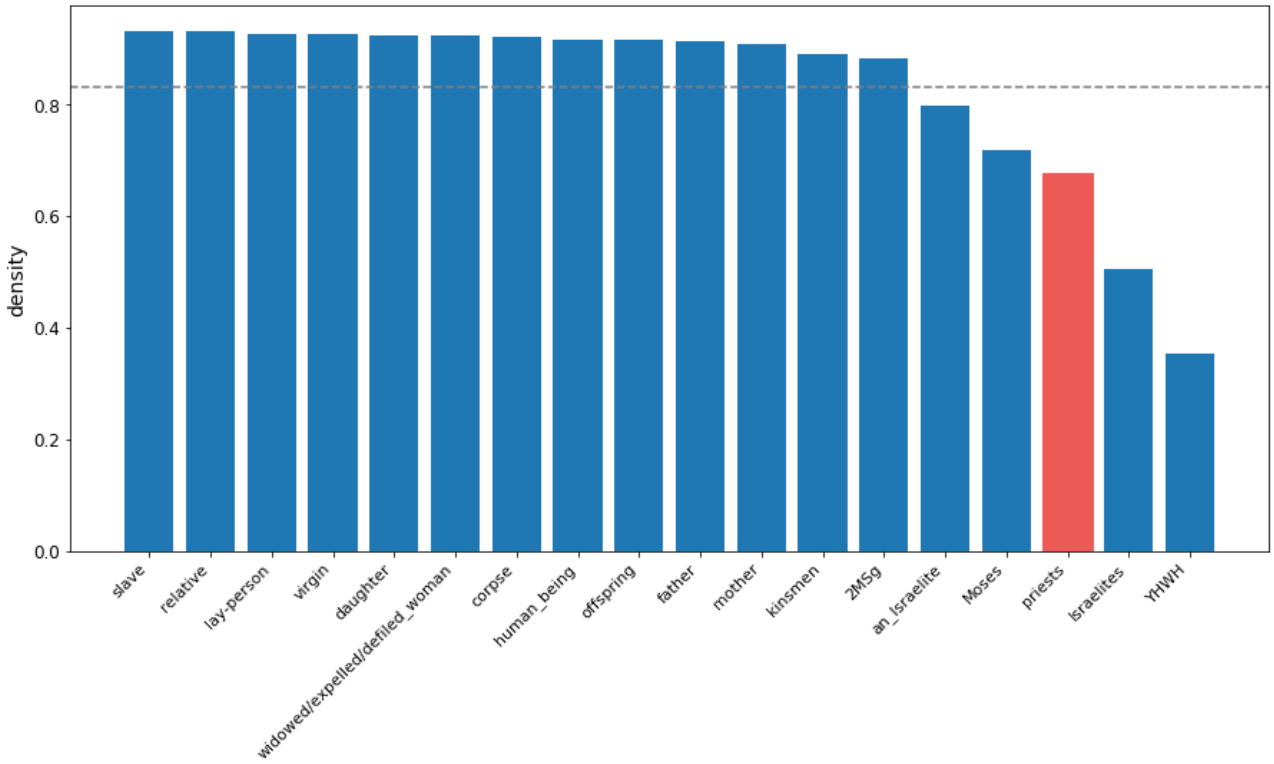

Figure 5.20 Elimination test of the *priests* (comprising *Aaron* and *Aaron's sons*)

(non)potential wives (*widowed/expelled/defiled woman* and *virgin*). These and the remaining participants interacting with the *priests* are displayed in Figure 5.21 along with the mean agency invested by the *priests* in the interactions. With regard to the *priests*, the major concern of the text is the threat of defilement. All interactions with family members and potential wives are fraught with the risk of defilement.[268] In this respect, the *priests* are set aside as a distinct group within the community, because they are not allowed to be as involved in daily-life activities as regular people. Moreover, there are serious constraints as to whom they can marry. The only kind of interaction recorded between *Moses* and the *priests* is the communication of divine revelation from *Moses* to the *priests*.[269] Interestingly, while the cult is therefore maintained by the *priests*, divine revelation is not mediated by the *priests* but by *Moses*.

The most substantial relationship between the *priests* and another participant is the relationship with *YHWH*. On the one hand, their interactions with *YHWH* demonstrate their unique privileges. They are sanctified by *YHWH* and are thereby set aside as a distinct group (21:15, 23; 22:9, 16, 32). The

[268] The same concern regards the interactions with *corpses* and the *human being* (i.e., an unclean person; cf. 22:5).

[269] 17:2 (×2); 21:1 (×2), 17, 24; 22:2, 3, 18 (×2).

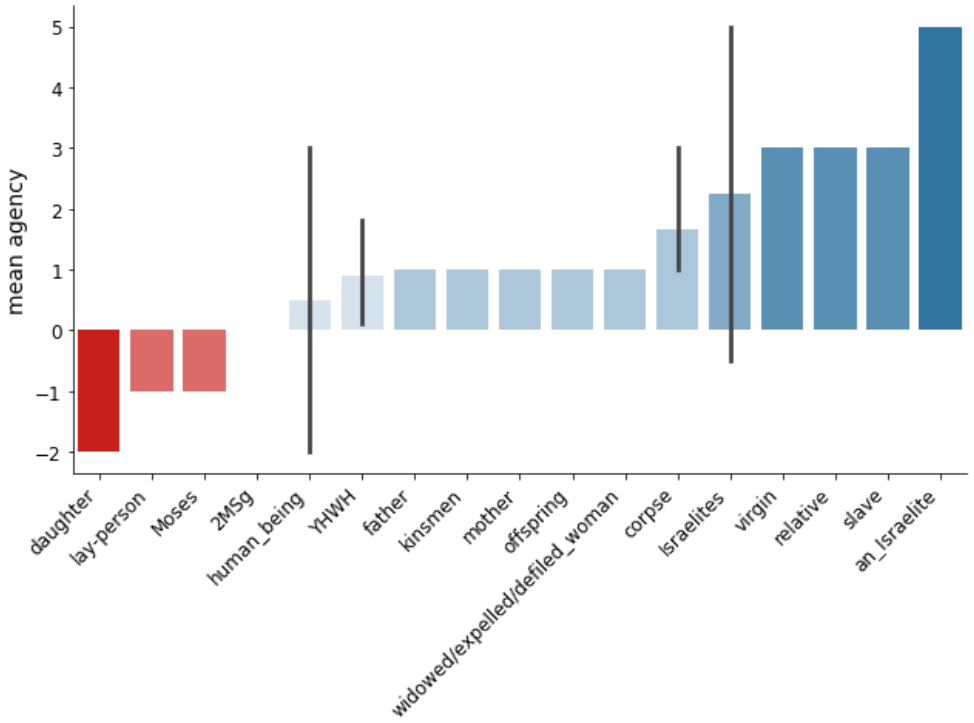

Figure 5.21 Mean agency invested by the *priests*

most prominent privileges include their role in the offering of sacrifices to *YHWH* (22:29; 23:11, 20),[270] as they are the recipients of the sacrifices offered by the *Israelites* (17:5; 23:10) and the *lay person* (22:14). In fact, they can cause the *Israelites* to incur guilt by mistreating the sacrifices (22:16). Moreover, they are in the crucial position of mediating atonement to *an Israelite* (19:22). However, in terms of frequency, other types of interactions are more significant. While the *priests* certainly have the role of handling sacrifices and providing atonement, most interactions recorded emphasize the requirements of the *priests*. They are to be cautious not to defile the name of *YHWH*, e.g., by becoming impure by contact with a dead person, by shaving their beards, or by marrying a prostitute or a divorced woman (21:1–7). Moreover, by mistreating the sacrifices, they also defile *YHWH's* name (22:2, 32). The punishment for defiling the name of *YHWH* is to be "cut off" from the presence of *YHWH* (22:3).

In sum, the *priests* form a distinct class in the community. They are set aside by *YHWH* for cultic service and are responsible only to *YHWH*. Nevertheless, within this particular text, there is a marked limit to the domain of the *priests*, since *YHWH* never speaks directly to the *priests* but only to *Moses* who is outside the priestly class. It is therefore fair to conclude that the *priests* have a 'facilitator' role

[270] In addition, *Aaron* is to arrange the golden lampstand and the twelve breads (24:3, 8).

in that they facilitate the relationship between *YHWH* and the Israelite community, although that relationship does not originate with the *priests* but with *YHWH* himself in his exodus-intervention.

5.5.2 Intermediate participants

Twelve participants belong to the cluster called 'intermediate participants'. These participants are not as embedded in the network as the core participants. Nevertheless, they do interact with both core participants and peripheral participants, so they obtain some kind of middle position in the network. The twelve participants are *Moses*, *kinsmen*, *blasphemer*, *foreign nations*, *remnants*, *group of people*, *human being*, *brother*, *idols*, *sister*, *fellow's wife*, and *daughter*. Some of the participants have rather simple roles, such as the *kinsmen* which almost always represent the extended family from which a member is removed because of capital punishment.[271] Several participants may be 'cut off' from their *kinsmen* which makes *kinsmen* a somewhat structurally connected entity. This explains why the *kinsmen* belong to the 'intermediate participants', although they are entirely inactive. Other participants have been discussed with regard to core participants, e.g., *foreign nations* (§5.5.1.2), and *remnants* (§5.5.1.1). The three women of this group will be discussed along with the peripheral women in the network (§5.5.3.1). Three participants will be discussed here, namely, *Moses*, the *brother*, and the *blasphemer*.

5.5.2.1 Moses

It may come as a surprise that *Moses* is not listed among the core participants of the network. After all, he is the mediator between *YHWH* and the *Israelites*, and he controls the divine revelation. Within the larger narrative of the Pentateuch, Moses is explicitly described as the covenantal 'broker' between YHWH and the people, e.g., in Exod 20:19 where the people want Moses to mediate the covenant, so they themselves can escape YHWH's direct speech (cf. Exod 24:2; Deut 5:25–27). In H, except for *YHWH's* command that *Moses* is to bring the *blasphemer* out of the camp for execution (Lev 24:14), all *Moses'* actions are speeches. *Moses* speaks to the *Israelites*,[272] *Aaron*,[273] and *Aaron's sons*.[274] *Moses* is primarily the undergoer of *YHWH's* speeches.[275] However, he is also the central participant when the *witnesses* bring the *blasphemer* to him (24:11), and when the *Israelites* are to

[271] 17:4, 9, 10; 18:29; 19:8; 20:3, 5, 6, 18; 23:29, 30. The only exception is 21:15 where the *kinsmen* are the group of people to which the offspring of the high priest belongs and which are all defiled by implication of the high priest marrying a woman outside his own kin (cf. Milgrom 2000, 1820).

[272] 17:2 (×2), 8; 18:2 (×2); 19:2 (×2); 20:2; 21:24; 22:18 (×2); 23:2 (×2), 10 (×2), 24, 34, 44; 24:2, 15, 23; 25:2 (×2).

[273] 17:2 (×2); 21:17, 24; 22:2, 3, 18 (×2).

[274] 17:2 (×2); 21:1 (×2), 24; 22:2, 3, 18 (×2).

[275] 17:1; 18:1; 19:1; 20:1; 21:1, 16; 22:1, 17, 26; 23:1, 9, 23, 26, 33; 24:1, 13, 23; 25:1.

bring pure olive oil to him (24:2). Summing up, *Moses* has a central role in terms of revelation, special legal cases, and in some cultic activities.[276] Important as these activities are, they are not enough to cast *Moses* as a main participant of the text with respect to a regular Social Network Analysis. An elimination test of *Moses'* ego-network shows that *Moses* is only the third most important participant next to *YHWH* and the *Israelites* (Figure 5.22). Without *Moses*, the density would only be slightly smaller than in the original network.[277]

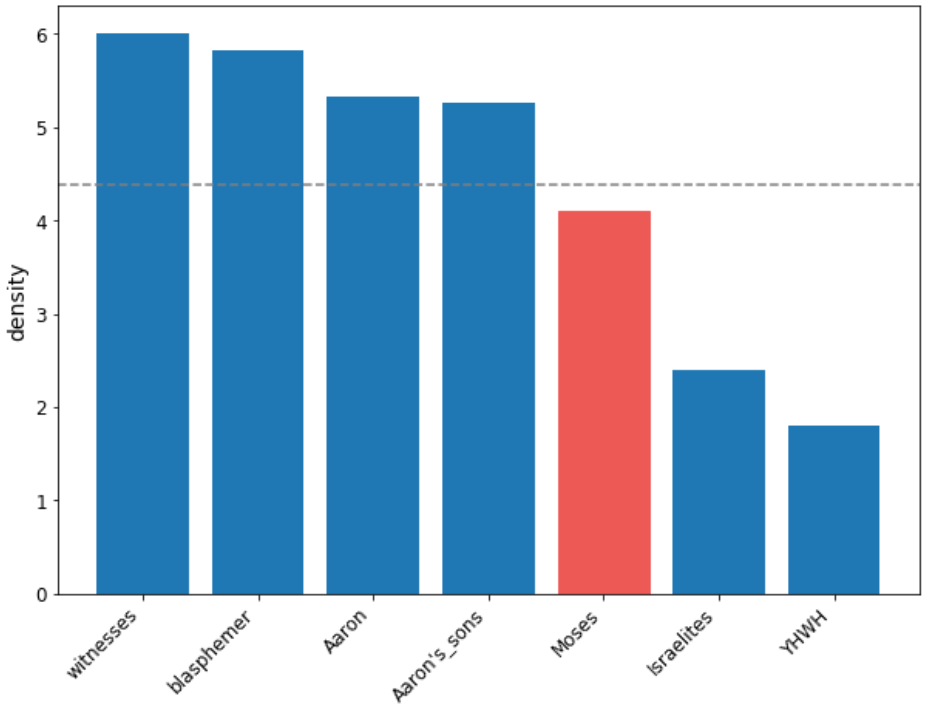

Figure 5.22 Elimination test of *Moses'* ego-network

Moses has a slightly more important role than *Aaron* and *Aaron's sons* in this subset of the network, because *Moses* has more interactions with the *Israelites* and the *sojourner*, the latter not interacting with the priests at all. However, the *Israelites* and *YHWH* are much more important for the cohesion of the network than is *Moses*. For one thing, the *Israelites* and *YHWH* interact with many of the same participants as *Moses*, including the *blasphemer*, *Aaron*, and *Aaron's sons*. Secondly, while *Moses* is clearly a broker for revelation, the *Israelites* and *YHWH* interact in multiple other ways. Their relationship, being covenantal in nature, is multifaceted and involves both negative and positive interactions. On the positive side, the *Israelites* can offer sacrifices to *YHWH* without the mediation of *Moses*.

[276] Moses is also commanded to bake twelve loaves and put them on the table in the Sanctum. However, Aaron is to regularly arrange the table every sabbath, and the people is to deliver the breads, so Moses is apparently only involved at the time of the inauguration of the cult (cf. Milgrom 2001, 2095).

[277] The original density of *Moses'* ego-network is 4.38, whereas the removal of *Moses* results in a density of 4.10.

Strictly speaking, the sacrifices are brought to the priests who are the sacrificial mediators.[278] However, in many cases, *YHWH* is explicitly mentioned as the benefactor or recipient of those sacrifices, so even the deliverance of sacrifices to the cult may be viewed by the author as a direct interaction between the offeror and *YHWH*. While the 'brokerage' role of the priests is implied and often fleshed out, in many cases the priests are simply omitted, e.g., "and you shall bring fire offerings to YHWH" (23:25).[279] The number of cases suggest that the immediacy of the covenantal relationship between *YHWH* and the *Israelites* should not be overlooked. The intimate relationship between *YHWH* and the *Israelites* is also underscored by *YHWH's* unmediated response to the *Israelites'* conduct, already elaborated upon in §5.5.1.1.

Perhaps the most important expression of the immediate relationship between *YHWH* and the *Israelites* is the recurrent reference to *YHWH's* deliverance of the people from Egypt[280] and his granting of a land.[281] In neither of these cases is *Moses* mentioned as the mediator despite his obvious role in confronting the Egyptian Pharaoh and delivering the people from bondage according to Exodus.

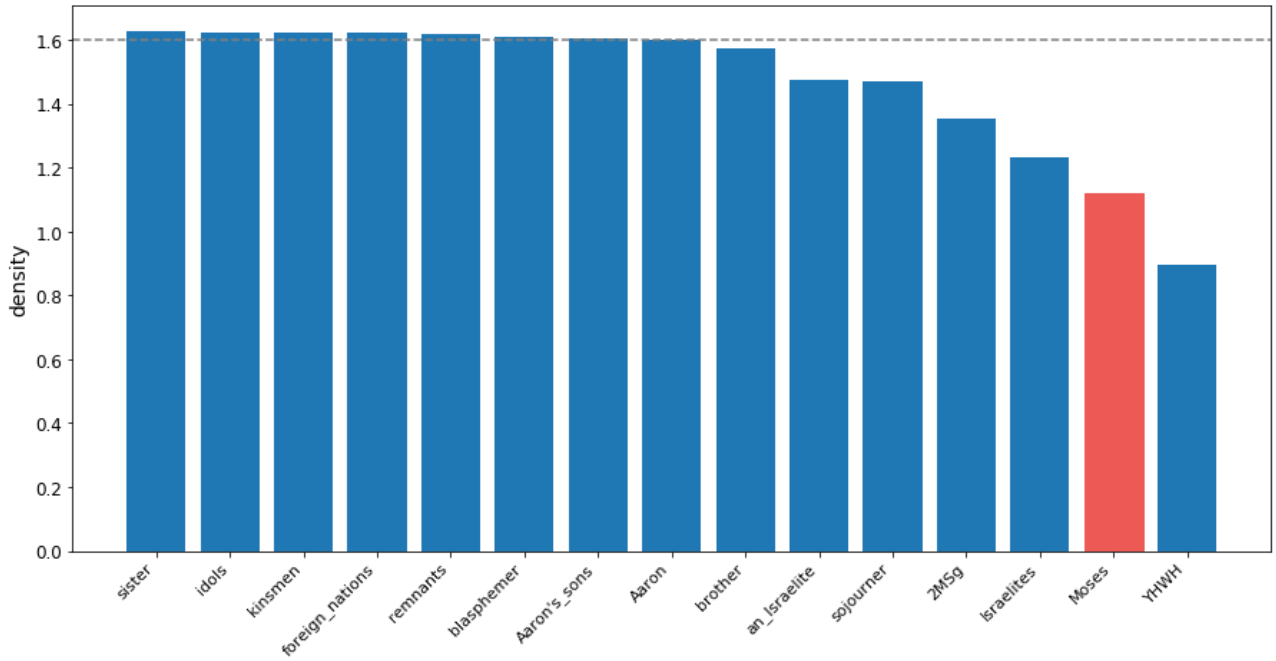

Figure 5.23 Elimination plot of the entire 'control network' displaying the fifteen most important participants for the cohesion of the network

[278] The priestly 'brokerage' role is emphasized in Lev 22 where the priests are commanded to treat the sacrificial gifts of the Israelites properly.

[279] Cf. also 19:5; 22:2, 3, 15, 22 (×2), 24, 29; 23:8, 16, 27, 36 (×2), 37, 38.

[280] 19:36; 22:33; 23:43; 25:38, 42, 55; 26:13.

[281] 18:3; 20:22, 24; 23:10; 25:2, 38.

Nevertheless, in order to present a balanced picture of the role of *Moses*, we must consider his role in the 'control network' (cf. §5.3.5). While *Moses* is only an intermediate participant with a limited brokerage role in the regular network, he is the second-most important participant in the control network, because he controls most of the interactions recorded. The elimination plot of the control network illustrates this (Figure 5.23). While *Moses* is only the sixth-most important participant with respect to the cohesion of the regular network (cf. Figure 5.14 in §5.5.1.1), he is the second-most important participant in the control network. Thus, to more accurately explain the role of participants in a text, their role in the social network role must be balanced by their role in the discourse structure. To summarize, in spite of *Moses'* obvious role as a mediator or 'broker' of the revelation of *YHWH*, he is not particularly important in the regular social network. Even in his own ego-network, the *Israelites* and *YHWH* are far more important. If *Moses* was removed from the network, the network would remain relatively stable, and the *Israelites* and *YHWH* would remain closely connected. This view is balanced by *Moses'* role in the control network, where he is the second-most important participant. We are thus left with a tension between an ordinary SNA of *Moses'* role and a discourse-structural analysis. To be sure, much interaction takes place between *YHWH* and the *Israelites*, but these interactions are nevertheless the content of *Moses'* speeches. We are thus justified in claiming *Moses* to be a 'mediator'.

5.5.2.2 The brother/fellow

The *brother* receives much attention in H. In the network analysis, the references to אָחִיךָ 'your brother' are collocated with references to nearly synonymous participants, namely, רֵעֲךָ 'your fellow', עֲמִיתֶךָ 'your fellow countryman', בְּנֵי עַמֶּךָ 'sons of your people', all of which occur in parallel in 19:17–18 (cf. §3.3.8). Understood this way, the *brother* is not only a close family member but represents any person belonging to the *Israelites*, literally, 'the sons of Israel'. Indeed, the sons of Israel are portrayed as an extended family comprised of the entire people. The *brother* is related to three groups of participants, including his close relatives (*brother's brother*, *brother's uncle*, and *clan*), members of the Israelite society (*Israelites*, *2MSg*, and *an Israelite*), and the *sojourner* (cf. Figure 5.24). As such, the *brother* is constructed as a figure in the social sphere between family, society, and foreigners.

The mean agency invested by the *brother* is generally relatively low (cf. Figure 5.24). His only highly agentive interaction is with his *clan* to which he returns after his release from debt slavery (25:41). Understood this way, the jubilee redemption is an act of empowering the *brother*, and his regained status as a free agent is expressed directly in his autonomous return to the *clan*. Most of the

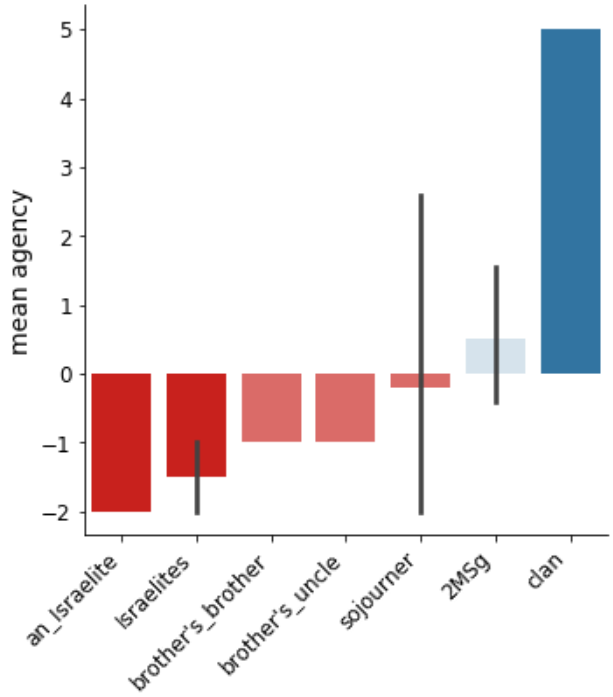

Figure 5.24 Mean agency invested by the *brother*

interactions of the *brother* are interactions with *2MSg*, one of the addressees of the text. First of all, *2MSg* is prohibited from oppressing, slandering, and hating the *brother* (19:16, 17). On the contrary, he shall treat him with justice and honestly reprove him if he finds anything wrong with him (19:15, 17). In short, *2MSg* is to love his *brother* as he loves himself (19:18). These commands show that the *brother* is to be seen as an equal with equal legal rights. This concern is concretized in the jubilee discourse (Lev 25). Here, the *Israelites* are commanded not to oppress one another (lit. "one's brother") when they sell or buy property from one another in case of debt (25:14). In that chapter, the *brother* is portrayed as a fellow Israelite who has fallen into poverty and reaches out for help from *2MSg* (25:35). When the *brother* reaches out, *2MSg* is to seize him (25:35) and help him. He can buy his property but not in perpetuity (25:23). Moreover, if the situation of the *brother* is worsened and he needs to loan money, *2MSg* may lend him money but not take interests (25:36–37). Finally, if the financial situation of the *brother* is so grave that he needs to sell himself to *2MSg* as a debt slave, *2MSg* may not treat him as a slave but as a hired worker (25:39). And he may not treat the *brother* with violence (25:43). Under these circumstances, the *brother's brother* (25:48) and the *brother's uncle* (25:49) must be allowed to redeem the *brother* from his debt slavery. In this chapter, the *brother* also has interactions with the *sojourner*. The *sojourner* is depicted as a rich man to whom the *brother* may reach out for help. The *sojourner* can buy him as a debt slave, but he is not allowed to treat him with violence (25:53). Indeed, the command is not directed to the *sojourner* but to *2MSg* who is

commanded not to allow the *sojourner* treat the *brother* with violence. Thus, while the author does not assume *2MSg* to have authority over the rich *sojourner*, he demands *2MSg* to take responsibility for the *brother*, even when he is in the hands of the *sojourner*.

In sum, the *brother* represents a member of the Israelite society. He is not actively involved in many interactions and does not pose a threat to the society. Rather, the aim of the text is to protect the legal rights of the *brother* as well as to constrain the power of *2MSg* who is thereby constructed as a person in a powerful position with the ability to take advantage of marginalized and impoverished fellows. In the jubilee discourse, in particular, the *brother* is portrayed as a lonely figure on the margins of family and society. He can hope for his family to relieve him, but he has no guarantee. The *brother* may even drift away from the community and reach out for the *sojourner* in desperation. Indeed, we may construe the *brother* as a 'transitional' figure with an innate tendency towards drifting away from the community. The overall concern of the text, then, is to counter this movement away from the society by putting obligations on the individual Israelite (*2MSg*), for example to respect the jubilee debt release, so that the *brother* can firmly regain his position in his clan and the community.

5.5.2.3 The blasphemer

The *blasphemer* is an intriguing figure in the Holiness Code. Curiously, he is never named but is consistently designated הַמְקַלֵּל 'the curser' (24:14, 23). By contrast, his mother is known as "Shelomith, daughter of Dibri, of the tribe of Dan" (24:11). The *blasphemer* has been considered a paradigmatic outsider based on the gendered language applied in the portrayal of this figure (Rooke 2015; cf. §2.5.6). Within the network structure, however, the *blasphemer* occurs among the intermediate participants. After all, he is actively involved in an event, and he has interactions with *YHWH*, *Moses*, and the *Israelites* (cf. Figure 5.25). The structural roles in the network analysis do not take into account the content of the interactions, only the agency invested. It is crucial, of course, whether the ties are positive or negative.

The ties of the *blasphemer* are entirely negative. His only act, apart from "going out in the midst of the Israelites" is the cursing of *YHWH* (24:11). *YHWH* never responds directly to the blasphemy, but *witnesses* to the event bring the *blasphemer* to *Moses* and into custody (24:11–12). *YHWH's* response is given to *Moses* who is ordered to bring the *blasphemer* outside the camp to stone him (24:14). The execution is carried out by the entire community (labeled *Israelites* in the network) who brings out the *blasphemer* and stones him to death, after the *witnesses* have laid their hands on his head (24:14, 23).

In short, the entire pericope of the *blasphemer* is fraught with enmity. It is not accurate, however, to describe the *blasphemer* as a paradigmatic outsider in the sense of being "victim of impossible

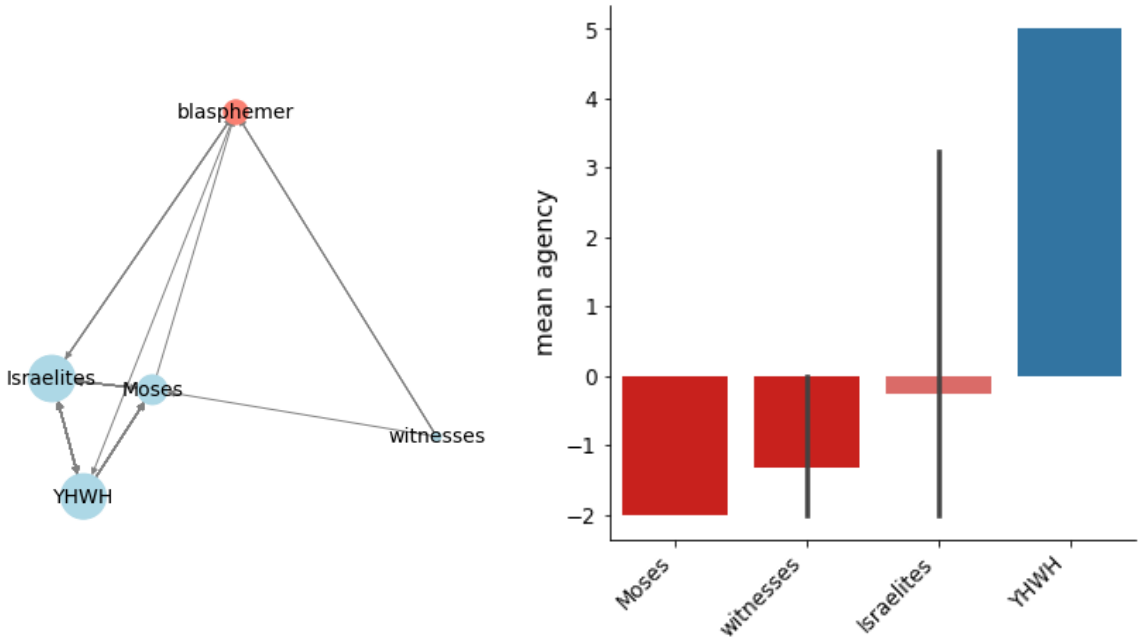

Figure 5.25 Ego-network (left) and mean agency invested by the *blasphemer* (right)

demands" (so Holguín 2015, 99). The relatively high agency invested by the *blasphemer* in his interactions differs from other so-called marginalized participants (e.g., the *women*). The *blasphemer* is rather cast as a 'rebel' who poses a threat to the community, not because of his ethnic origins, but because of his blasphemy against *YHWH*.[282] In other words, the pericope describes a rebellion gone wrong. The first event recorded is when the *blasphemer* 'goes out' (וַיֵּצֵא QA) in the midst of the Israelite camp. At the end he is himself brought outside the camp (וַיּוֹצִיאוּ HI) by the *Israelites*. That the *blasphemer* should not be understood simply as a paradigmatic outsider is underscored by his structural role in the discourse. In fact, in the so-called 'control network', the *blasphemer* plays a rather important role, which is indicated by his relatively high outdegree score (cf. Figure 5.8 in §5.3.5). By initiating the narrative of 24:10–23, the *blasphemer* 'controls' (or, at least, is responsible for) the narrative, in total 21 interactions. Within the text as a whole, then, the *blasphemer* provides an occasion for explaining the scope of *lex talionis*.

[282] As explained in §2.5.6, the confusion pertaining to the case of the blasphemer relates to whether half-Israelites are subject to Israelite law. Since the blasphemer is only half-Israelite he could have been exempt from punishment. The divine speech prompted by the blasphemy, however, states that both Israelites and non-Israelite sojourners are within the scope of the law (24:16, 22). By implication, therefore, the half-Israelite blasphemer must be punished insofar as the blasphemy was pronounced in the midst of the camp (24:10).

5.5.3 Peripheral participants

Most of the participants are situated in the periphery of the network. They are generally characterized by having a minimum of ties to other participants, and most of them only occur once or twice in the text. Of the 40 participants, seventeen are women.[283] Another three women are in the group of intermediate participants (*sister*, *fellow's wife*, and *daughter*), but all women will be treated as one group below. Most other participants have already been mentioned in relation to core or intermediate participants, including the *witnesses* in relation to the *blasphemer* (§5.5.2.3), the *lay person* in relation to the *priests* (§5.5.1.4), and the *brother's brother*, *brother's uncle*, and *clan* in relation to the *brother* (§5.5.2.2). Therefore, apart from the *women*, only the *father* and a small group of vulnerable members of the society (the *poor*, the *blind*, the *deaf*, and the *elderly*) will be considered.

5.5.3.1 The women

There are 20 women in the H-network, about one third of the human/divine participants. The vast majority of these are relatives to the core participants of the text, in particular *2MSg*, the *Israelites*, *an Israelite*, the *sojourner*, *Aaron*, and *Aaron's sons*. Indeed, all core participants but *YHWH* interact with at least some of the women in the network. Although it might not be entirely correct to treat the women as a group given that some of the women are related to the priests and others to regular Israelites, nevertheless, by considering the women as a group, we can inquire whether a pattern of interaction and social status emerges. In general, the *women* have low mean agency scores in the network, indicating that they are typically portrayed as semantic undergoers rather than instigating actors. Curiously, the participants with which the *women* are most agentive – yet low agency – are all core members of the network (cf. Figure 5.26).

The three participants with which the *women* have the lowest mean agency (-2) are the *husband*, the *kinsmen*, and the *man*. They are all peripheral participants, so the interactions to report are scarce. The interactions include expulsion by the *husband* (21:7), removal from their *kinsmen* by means of capital punishment (20:18), and engagement to a *man* (19:20). The remaining participants are all core participants, and the *women* have a little higher mean agency with this group. The most common

[283] These include the *mother*, *virgin*, *widowed/expelled/defiled woman*, *handmaid*, *father's wife*, *aunt*, *aunt-in-law*, *daughter-in-law*, *granddaughter*, *woman and her mother*, *man/woman*, *woman in menstruation*, *relative*, *woman*, *woman and her daughter*, *granddaughter of woman*, and *sister of woman*. The remaining peripheral participants are the *corpse*, *2MPl*, *lay person*, *witnesses*, *father*, *offspring*, *slave*, *sons of sojourners*, *children*, *no-one*, *male*, *purchaser*, *deaf*, *blind*, *poor*, *rich*, *elderly*, *son of brother*, *brother's brother*, *clan*, *brother's uncle*, *man*, and *husband*.

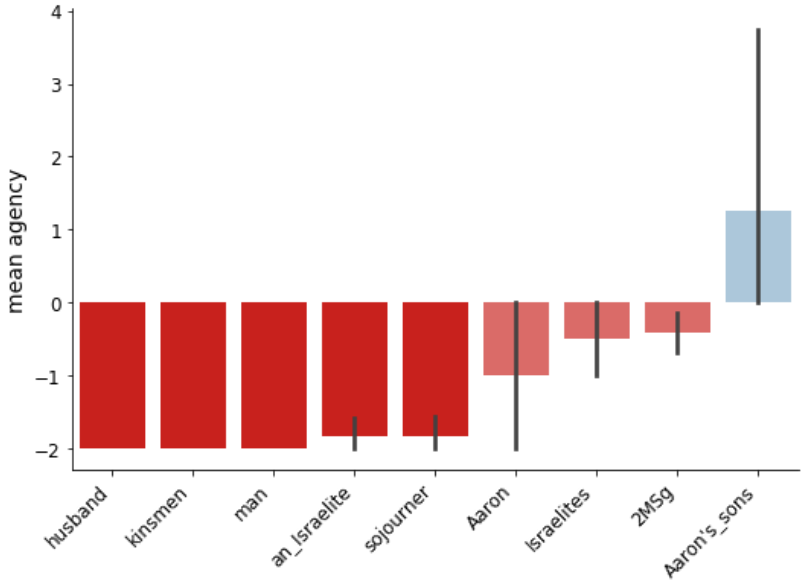

Figure 5.26 Mean agency invested by the *women*

interaction is sexual intercourse expressed with the verbs קרב QA ‘approach’, גלה PI ‘uncover’ [nakedness], ראה QA ‘see’ [nakedness], נתן QA ‘give’ [copulation], and שׁכב QA ‘lie with’. Related interactions are לקח QA ‘take’ (here, ‘marry’) and נאף QA ‘commit adultery’. *An Israelite* and the *sojourner* are both prohibited from having sexual intercourse with close relatives, as well as the wife of another man (i.e., the *fellow’s wife*), although, to be sure, the prohibitions are given as case laws in Lev 20 and not as apodictic prohibitions.[284] The apodictic prohibitions are given in Lev 18 with *2MSg* as the addressee.[285] The marriage laws are stricter for *Aaron* who is obliged to marry a *virgin* of his own kin (21:13, 14). *Aaron’s sons* are not explicitly commanded to marry a *virgin* of their own kin, but are prohibited from marrying prostituted, defiled, or divorced women (21:7). The overall concern of the incestual laws and marriage laws is the threat of defilement related to these illicit interactions. Defilement compromises the relationship between *YHWH* and the *Israelites* as explicitly stated in the opening and final verses of Lev 18 (1–5, 24–30). For this reason, there is capital punishment for transgressing the incestual laws. Both male and female perpetrators are put to death by the *Israelites* (20:14, 27) or, in one case, by *2MSg* (20:16). The threat of defilement also affects other interactions. Firstly, *2MSg* may not defile his *daughter* by making her a prostitute (19:29). A similar law is given with regard to the *daughter* of a priest who may not defile her father by becoming a prostitute (21:9). Secondly, the *priests* may not defile themselves by coming close to a dead relative (21:1–3, 11), except that *Aaron’s sons* may undergo defilement for a virgin sister because she has no husband

[284] 20:10 (×2), 11 (×2), 12, 14, 17 (×2), 18 (×2), 20 (×2), 21 (×2).

[285] 18:7 (×2), 8, 9, 10, 11, 12, 13, 14 (×2), 15 (×2), 16, 17 (×3), 18 (×2), 19 (×2), 20; 20:19.

(21:3). The *mother* stands out in the group of *women*. She is the only woman to be explicitly feared, or revered, by the *Israelites* (19:3). Moreover, if *an Israelite* or a *sojourner* curses his *mother* (or his *father*), he will be put to death (20:9). Finally, the *Israelites* are allowed to buy *handmaids*, as well as male slaves, from the surrounding nations (25:44).

In sum, with respect to the *women*, the primary concern of the text is the threat of defilement. The *women* are not *per se* a source of defilement, but interactions and relationships between male Israelites – as well as the *sojourner* – and *women* may cause defilement. Therefore, to preserve the ritual purity of the people, the interactions between men and women are constrained. If they deliberately incur defilement, both women and men are held accountable and are most often punished by death. In this respect, the text is not so much concerned with the rights and obligations of the *women* but rather the obligations of the Israelite addressees because the interactions between men and women have critical implications for the relationship with *YHWH*.

5.5.3.2 The father

The *father* occurs a few times in the network, only in relation to core participants, namely, *an Israelite*, the *sojourner*, *2MSg*, *Aaron*, and the *Israelites*. The mean agency is low as illustrated in Figure 5.27. The intention of the discourse appears to be to protect the status and rights of the *father*. *An Israelite* is prohibited from cursing his *father* (as well as his *mother*), although indirectly by means of a case law (20:9). The same law applies to the *sojourner*. Moreover, by prohibiting *2MSg* from having intercourse with his *mother*, whose 'nakedness' is said to be the 'nakedness' of the *father*, the

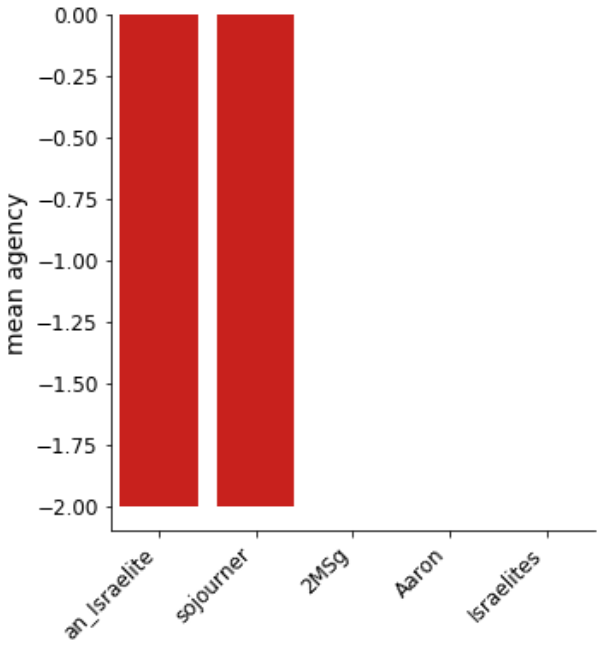

Figure 5.27 Mean agency invested by the *father*

father's rights are protected (18:7). Rather than dishonoring their *father*, the *Israelites* are commanded to fear, or revere, their *father* as well as their *mother* (19:3). The only recorded exception to this call for reverence regards *Aaron* who is prohibited from coming near his deceased *father* (21:11), most likely as part of a mourning rite (Wenham 1979, 291).

In sum, the *father* plays a peripheral role in the network and is never active. Yet, the *father* is important in terms of delineating the domain of the Israelites (including *2MSg*, the *Israelites*, and *an Israelite*) and the *sojourner*. Their roles and social space are limited by their obligations to the *father*.

5.5.3.3 The deaf, blind, poor, and elderly

A group of peripheral participants are particularly vulnerable. To this group belong the *deaf*, the *blind*, the *poor*, and the *elderly*. Never active in the network, these participants are only connected with the individual Israelite (*2MSg*). Apparently, their function is to demarcate the domain of *2MSg* and illustrate his social obligations to vulnerable members of the community. Accordingly, *2MSg* may not curse the *deaf* (19:14), nor put stumbling blocks in front of the *blind* (19:14). In other words, *2MSg* is prohibited from taking advantage of the disabled – just as he is prohibited from taking advantage of his debt-burdened *brother* (cf. §5.5.2.2). His interaction with the *poor*, however, shows that there must be a limit to his generosity. On the one hand, he is obliged to leave the leftovers of the harvest for the *poor* (19:10; 23:22). On the other hand, he is not allowed to "lift the face of the poor" (19:15), that is, he is not to favor the *poor* in legal cases, just as he is not allowed to favor the *rich* (19:15). Even if he sympathizes with the *poor* in his legal struggle, *2MSg* is not allowed to bend the law. Finally, *2MSg* is to "honor the faces of the old" and to "arise before the aged" (19:32). Although the *elderly* may very well enjoy the respect that follows from a long life, the command to honor him presupposes a tendency to the opposite. Just as the *father* may be dishonored (cf. above), the status of the *elderly* may be violated by the potentially presumptuous *2MSg*. Thus, the aim of the law is to preserve the respect deserved by the *elderly* as well as the dignity of disabled people represented by the *deaf* and the *blind*.

5.5.4 Summary and discussion

The detailed explorations of the participant roles in the Holiness Code-network support the initial statistical analysis. That is, the participants can reasonably be divided into three groups based on frequency, connectivity, and agency. The most complex relationships evolve around the core members: *YHWH*, the *Israelites*, *2MSg*, *an Israelite*, the *sojourner*, and the *priests*. This is not unexpected, since the text is composed of divine speeches to the *Israelites* and, indirectly, to *2MSg*. Most other participants are presented in relation to the *Israelites* and *2MSg*. Notably, thus, the social network

derived from the Holiness Code is not a neutral representation of an ancient Israelite society but rather the author's depiction of a community with specifical emphasis on the relationship between *YHWH* and the *Israelites*. The author's choice of perspective does not imply that the *women*, the *brother*, or the *father* are socially marginalized just because they are never addressed directly or focalized as agents, but simply that the author's concerns lie with the addressees and their covenantal obligations.

With respect to the addressees, it was investigated whether the participant shifts between plural and singular address corresponded to different characterizations and roles for these participants. A significant difference was revealed. Firstly, while the individual Israelite (*2MSg*) has many ethical obligations, he is less connected with *YHWH*. It is the community (the *Israelites*) who is perceived of as a covenant partner of *YHWH*. It is thus the people at large who is said to enjoy the divine blessings and it is the people at large who is punished (although, by implication, the individual Israelites obviously partake in the events). Closely connected to their relationship with *YHWH*, the *Israelites* are collectively responsible for punishing blasphemy and child sacrifices. In sum, the individual ethical obligations are embedded in a collective identity, most importantly the collective covenantal relationship with *YHWH*. This identity has ramifications for the communal responsibility for adherence to the law and punishment of perpetrators, as well as for foreign affairs.

Although never directly addressed, the *sojourner* is a central figure in the network and has an important role. The role of the *sojourner* is most clearly seen in his interactions with *YHWH* and the *Israelites*. The *sojourner* has ethical obligations, can partake in certain ritual activities, and he is threatened by divine punishment for violating the law. However, although the *sojourner* has ties with *YHWH*, they are exclusively ties of defilement and punishment. Thus, outside the covenant, *YHWH* is impersonal and distanced. The inside of the covenant is illustrated well by the interactions between *YHWH* and the Israelite community. These interactions include blessings and curses, disciplining and intimacy. Thus, the *Israelites* have a deeper and more intimate relationship with *YHWH* because it is rooted in a covenant. In this light, the *sojourner* serves to mark the boundary of the covenantal community.

The *priests* are the final group within the core of the network. The examination of the priestly participants showed that they are a distinct group well embedded in the network. Their role is curious, however, since they do not receive direct revelation from *YHWH*. In this respect, they are on the same level as ordinary *Israelites*. On the other hand, the most substantial relationship attested for the *priests* is their relationship with *YHWH*. Their main responsibility is the handling of sacrifices which involve a danger of defilement. Thus, although the *Israelites* are described as offering sacrifices directly to *YHWH*, the *priests* can compromise the relationship between *YHWH* and the people. Within H,

therefore, they retain an important role as cultic facilitators, despite the communal focus of this part of Leviticus. This conclusion has implications for the ongoing debate on the authorship of Leviticus. J. W. Watts (2013, 98) has argued that Aaronide priests were responsible for the book in order to legitimize their cultic monopoly. However, while the priests do facilitate the sacrifices of the Israelites and thereby have an important role, the main focus of the text (Lev 17–26 at least) is not on the prerogatives of the priests but on their responsibilities. It is not likely that a priestly class authored this legislation which lends so much significance to direct interaction between *YHWH* and the *Israelites* outside the cultic activities of the *priests*, and which attributes divine revelation solely to a person outside the priestly class, namely *Moses*.[286]

Curiously, by contrast to the participants just discussed, *Moses* is a less central participant in the network. An ordinary, two-dimensional mapping of the participants lends Moses little importance, since his unique role of mediating the divine speeches to the people is overruled by the more frequent direct interactions between *YHWH* and the people. While revelation needs to be mediated, blessings and curses do certainly not. On the other hand, the third dimension of the network (i.e., the discourse structure) captures well another aspect of *Moses'* role. Although he is 'limited' to a mediatory role, this role is immensely important when taking the structure of the text into account. There are no interactions recorded between *YHWH* and the *Israelites* apart from those mediated by *Moses*. In that sense, he is the 'broker' of divine blessings and curses, and he is more important than the *priests* with respect to authority.

The discourse structure was also found to be important when considering the role of the *blasphemer*. Emphasizing the marginalization of the *blasphemer*, recent feminist and deconstructionist approaches to the pericope claim that he is an outsider *par excellence*. An SNA, however, provides a more varied picture of his role. For one thing, the *blasphemer* instigates a few events apart from being the patient of imprisonment and capital punishment. Secondly, he is the only figure apart from *YHWH* who is described as initiating a narrative event, and it is fair to say that the *blasphemer* occasions the divine speech containing *lex talionis*. Therefore, it is more accurate to describe the *blasphemer* as a rebel who "went out among the Israelites" (24:10) and turned out cursing *YHWH*. Put differently, the *blasphemer* commits a paradigmatic sin within the domain of the covenantal community. The

[286] This conclusion aligns with Gane's argument that "the priestly role is part of a tightly controlled ritual system that makes it possible for holy YHWH to reside among and be accessible to his faulty and often impure people for their benefit without harming them" (2015, 219). Also, according to Gane, the priests do have authority and responsibilities for teaching laws to the Israelites, "but the priests receive these laws from Moses, whose reception of them from YHWH is what makes them authoritative (e.g., 10:11)" (2015, 221).

pericope thus illustrates what the community needs to do when the borders of the covenantal community are transgressed. Since *lex talionis* applies equally to native *Israelites* and non-Israelite *sojourners*, it also applies to the half-Israelite *blasphemer*. Indeed, it is emphasized that the law applies to anyone within the domain of the covenantal community regardless of ethnic descent.

The discourse appears to presuppose a tendency towards social inequality, perhaps best illustrated by the *brother* in Lev 25 who is in risk of drifting away from his family and the society. One of the main purposes of the text, therefore, is to counter disentanglement of the community by demarcating the sphere of influence of *2MSg*. The *brother*, interacting as he is with family members, the Israelite community, and the *sojourner*, designates the paradigmatic transitional participant who is drifting away from his own family and ancestral property, the Israelite community and into the hands of the non-Israelite *sojourner* (cf. Lev 25). Assuming the Israelite addressees to take advantage of the poor fellow, the legislator explicitly requires the addressees to treat the *brother* as an equal not to be exploited (cf. also Lev 19:13–18) and to see to it that the poor fellow retains his right to redemption. The lawgiver wants to retain the order of society by regulating the behavior of the *Israelites* towards their needy fellows. The interactions between *2MSg* and the *brother* thus reflect the author's expectations of equality between the members of the covenantal community, explicitly argued for in the frequent references to the common history of the *Israelites*, the exodus (19:36; 22:33; 23:43; 25:38, 42, 55; 26:13). In sum, the *Israelites* are not to jeopardize the covenantal community by oppressing fellow members or closing their eyes to injustice.

The *women* of the Holiness Code have attracted attention, especially by feminist scholars. In light of the SNA, the purpose of the text is not so much to list the legal rights of the *women*, nor to objectivize the *women* as male property. Rather, it is the interactions themselves that are relevant insofar as incestual relationships (as well as homoerotic and bestial acts) compromise the ritual and moral purity of the people and thereby the covenantal relationship with *YHWH*. The *women* are portrayed both as patients of intercourse but also as legally responsible participants on par with males. The main focus of the author lies with the responsibility of the addressees to refrain from becoming impure and to prevent others from causing impurity.

Finally, what is the relationship between social domains, values of equality, and holiness? After all, the most extraordinary command of the law is the command for the Israelite community to be holy (Lev 19:2). It is within this framework that social domains and social justice should be seen. Holiness is the ultimate purpose of the law. Holiness is also the impetus for social justice insofar as the sanctifying and liberating event of exodus is the historical prelude to the law (20:26). This historical sanctification is repeatedly phrased as a motivation for advancing social justice (e.g., 25:38, 42,

55). Since the *Israelites* were all poor slaves and foreigners in Egypt and now enjoy the same freedom, they should not take advantage of poor fellows. Nevertheless, although social equality is more accentuated in H than in the preceding priestly texts, H does not abandon the strict cultic hierarchy established in P. The *priests* continue to enjoy a privileged role, and *Moses* continues to be the mediator of divine revelation. In other words, equality does not negate the existence of different roles, and it does not mean that any law applies equally to everyone. The author most likely agrees with the phrase מַמְלֶכֶת כֹּהֲנִים 'a kingdom of priests' (Exod 19:6) as a designation of the covenantal people but certainly not at the cost of the Aaronide priesthood. Rather, for the author, equality means that no one may exceed his or her particular domain within the community at the expense of others. The individual Israelite may not take advantage of his poor *brother* or the *sojourner* and thereby expand his power. The *priests* do have certain exclusive privileges, but they are also constrained by exclusive restrictions in order to fulfil their particular role for the best of the community in its covenant with *YHWH*. In sum, within the covenantal community, everybody has a role to obtain in order to express aspects of holiness and to maintain the blessed, intimate community with *YHWH*.

5.6 Conclusion

The purpose of this chapter was to explore the Holiness Code as a social network and to map the participants and their roles. While SNA has been applied to different kinds of literature, even ancient literature, the present study diverged from traditional approaches in three significant ways. Firstly, it was the first attempt at mapping the participants of a legal text. Given the nature of the law as one of common law, the text proved valid for mapping the interactions and speeches of the participants. In fact, it was argued that the 'expectancy' governing both law (including common law) and social networks makes a common ground for inquiring the value system of the law with SNA. Secondly, the edges of the network were conceptualized as the interactions of the participants in terms of concrete verbs as well as the level of agency invested in the interactions. The use of an agency hierarchy was a novel attempt but proved useful in mapping the relationships between the participants. Thirdly, the social network of H was enriched with a third dimension, the discourse-structure of the text. As for any other text, the sentences of H are not randomly distributed but are intentionally structured as a discourse. By implication, lower-level sentences are conditioned by higher-level sentences, and consequently, the interactions in the social network are interdependent according to the discourse structure. Most significantly, this third dimension served to 'restore' the importance of *Moses* within the text. While *Moses* was not found among the core members of the ordinary social network, the so-

called ‘control-network’ presented *Moses* as the second-most important participant next to *YHWH*, because most interactions were conditioned by *Moses*.

The structure of the ordinary network was found to be similar to other ‘real-world’ networks in that the participants were not randomly connected but tended to cluster around a few important participants. Indeed, a few participants dominated the network, including *YHWH*, the *Israelites* (plural addressee), *2MSg* (singular addressee), *an Israelite*, the *sojourner*, *Aaron*, and *Aaron’s sons*. This observation was supported by applying the node2vec algorithm for inquiring the structural equivalence of the participants. Three groups of structurally equivalent participants were identified, namely, core, intermediate, and peripheral participants.

The final section of the chapter was dedicated to an in-depth discussion of the most interesting participants. A number of important aspects were revealed by the analysis. Firstly, while the *Israelites* and *2MSg* both refer to Israelite addressees, the third parties with which these participants are connected differ significantly, as does the content of shared relationships. Most importantly, the relationship between *2MSg* and *YHWH* is limited to a matter of fearing *YHWH* and avoiding defiling *YHWH*. By contrast, the relationship between the *Israelites* and *YHWH* is much more substantial and intimate, as it is rooted in the exodus and the covenant. Accordingly, the blessings and curses of Lev 26 are uniformly addressed to the *Israelites*. This distinction between *2MSg* and the *Israelites* also explains why juridical decisions, abolishment of idolatry, and foreign affairs are primarily associated with the *Israelites*. Within the context of H, those three areas are related to the right worship of *YHWH* and naturally belong to the domain of the *Israelites*. Secondly, the *sojourner* appears surprisingly frequent in the network, but his role is different from that of the *Israelites*. While the *sojourner* has access to cultic activities and has ethical obligations, the relationship with *YHWH* is limited and he is not within the scope of the covenant. Thirdly, most participants of the network are portrayed in relation to the addressees. Thus, almost all female participants are family members of *2MSg*, the *sojourner*, the *priests*, or *an Israelite*. The implication of which is that these peripheral participants do not have a full-fledged profile, as they are only portrayed relative to *2MSg* or other core participants. Accordingly, it was argued that the function of most peripheral and intermediate participants is to demarcate the social space of the addressees and other core participants. The text appears to presuppose a tendency for *2MSg*, in particular, to extent his domain – in terms of wealth and power – at the expense of vulnerable members of the family and the society. The purpose of the text, then, is to counter this tendency by commanding the addressees to view vulnerable members of the society as equals and persons with equal legal rights. This interpretation, however, does not account for all phenomena in the text. In particular, the multiple laws aiming at retaining the ritual purity of the people and the

priests are not so much focused on the legal rights of the peripheral participants but on the obligations of the core participants to avoid defilement in order to retain the status as the holy people of *YHWH*. Thus, the meaning of the text cannot simply be reduced to social justice because the ethical thrust of the laws is embedded in a holiness framework. Put differently, the addressees are to preserve the borders of the covenantal community as well as the equality and legal rights of its members. Thus, social justice is both the outward expression of holiness and its prerequisite.

In sum, the Social Network Analysis of Lev 17–26 substantiates existing interpretations of the text on a quantitative basis. The dependence upon participant tracking and semantic roles ensures a textual analysis firmly based on the linguistic structures of the text. Thus, the methodology demonstrated here combines in-depth linguistic analysis with large-scale social network modelling. An important implication of the social network approach is that otherwise unrelated participants can be compared, because their roles are mapped with respect to the network at large. Finally, the SNA suggested novel interpretations of a number of participants, including the ambiguous portrayal of *Moses*, the prominence of the *sojourner*, the compositionality of the addressees, the less-than privileged, facilitating *priests*, the transitional *brother*, and the demarcating roles of the *women* and other intermediate and peripheral participants.

CHAPTER SIX

SUMMARY AND CONCLUSIONS

6.1 Summary of research

The aim of this study has been to develop and discuss a social network model for capturing the roles of the participants in the Holiness Code. The law text contains 59 human/divine participants related to one another in a variety of ways. The participants thus form a network of interaction closely related to the content matter of the law. It is the claim of this study that the ethical values of the law text are related to the participants and their internal relationships; in other words, their roles. The methodology developed in this thesis contrasts traditional approaches to the characterization of literary participants in significant ways. Within Biblical studies, it has been common to focus on one participant or a small set of participants and to employ literary, linguistic, and historical insights to interpret the role of the participant(s). An obvious advantage is a multifaceted characterization not limited to certain features of a text. The downside is the often narrow focus on one participant at the cost of viewing the participant in light of the remaining participants of the text. In particular, there is a risk that the role of a participant is over- or underemphasized, or even misunderstood, because its embeddedness in a network of interacting participants is not taken seriously. Chapter 2 illustrated this methodological issue by reviewing previous research on the participants of H. It was shown that previous interpretations have led to rather diverse characterizations of the participants and their roles, and it was contended that a social network approach better accounts for the participant roles within the text at large. Consequently, a sociological framework was outlined and integrated with a literary approach to H. In particular, recent narratological and rhetorical readings of Biblical law were invoked to argue that H is not an arbitrary collection of laws but a carefully written document that lends itself to literary analysis even though it may not meet the literary criteria of modern critics. In light of this framework, it was further argued that the participants should not be treated as discrete entities but as members of a social community implied by the text. Accordingly, the participants were claimed to form a social network connected by physical, perceptional, and emotional exchanges. By implication, the role of each participant can be explained in light of the entire network. The social network model necessitated a structured harvesting of data to ensure a consistent and transparent mapping of the participants. The two datatypes required were participant tracking data and some abstract measure of interaction between the participants. Both data types demanded careful investigation, and two chapters were dedicated to that task.

Chapter 3 unfolded the participant tracking strategy developed by Eep Talstra and pursued in this study. The methodology is essentially a bottom-up linking of linguistic entities to textual participants. Talstra developed his methodology primarily on narrative and prophetic texts, and it was the aim of the chapter to review the tracking procedure on the basis of a concrete dataset of the participant references in H. Four important insights were yielded by the research. Firstly, it was demonstrated that the computational algorithm developed by Talstra accounts well for a law text like H. This insight supports the notion of H as a piece of literature. If the text was a mere collection of laws with no organizing principle whatsoever, we would not expect a coherent participant tracking analysis. However, the participant references adhere to the same literary conventions as Biblical narratives. New participants are introduced by proper names or full nominal phrases, while participants already established in the discourse can be referred to by anaphors. The frequent usage of אִישׁ 'a man/anyone', so characteristic for Biblical case laws, illustrates this literary convention well. Since case laws may apply to 'a man/anyone' in different circumstances and even refer to different participants, the reference is commonly disambiguated by the addition of complex phrases, relative clauses, or temporal/circumstantial clauses. Thus, even the lists of laws reveal literary consciousness as to the identifiability of the participants involved.

Secondly, as a law text, H offers its own complications in terms of participant tracking. Most significantly, the usage of אִישׁ 'a man/anyone' is a literary convention in Biblical law to introduce an indefinite, hypothetical participant. As noted, the participant is commonly disambiguated by means of adding complex phrases, relative clauses, or temporal/circumstantial clauses. In order for a computational algorithm to account better for legal texts, these linguistic devices for disambiguating participants need to be taken into consideration. Furthermore, the algorithm did not always handle nominal clauses well. For a participant tracking analysis, it is crucial to discern whether the non-verbal predicate of a nominal clause 'identifies' or 'classifies' the subject, since an identifying clause involves one participant and a classifying clause two. A two-step procedure was proposed to discern 1) the phrase functions (predicate and subject) and 2) the overall semantics of the clause by means of definiteness.

Thirdly, the dataset under consideration also exhibited some abnormalities including the frequent 1st person references to YHWH in Moses' speeches and the alternation between plural and singular references to the addressees. It was argued that both types of participant shifts were rhetorical devices outside the scope of participant tracking. Nevertheless, a computational analysis has the merit of revealing abnormalities, because it is not prone to harmonizing or ignoring tensions unlike human interpreters. Thus, a formalized participant tracking procedure shows both the internal coherence of

the text due to its ability to link participant references across the span of a text, as well as the 'knots' and 'gaps' of the text, whether they are intentional or not.

Finally, it was shown that participants are not always entirely distinct entities. Often, they overlap in terms of group membership, that is, a participant can be referred to individually or as a member of a group. In other words, the participants form a hierarchy, and this hierarchy must be respected in a participant analysis (SNA included) because references and events ascribed to an individual participant cannot necessarily be ascribed to other members of the same group.

Chapter 4 was dedicated to the study of semantic roles. Ultimately, the chapter aimed towards establishing a hierarchy of semantic roles according to a scale of agency. Agency is a compositional entity and involves notions of volition, sentience, causation, and dynamicity. As an example, a volitional participant is generally considered more agentive than a non-volitional. In turn, the hierarchy would allow for ranking participants according to how much agency they invest in concrete events. Apart from the internal aspect of the verb (also known as *Aktionsart*), agency is also affected by the relational properties of the arguments of the verb and the pragmatic context of the clause. A multifaceted analysis was therefore required to capture the degree of agency entailed by a verbal event.

The chapter prioritized the verbal properties dynamicity and causation, arguably the most significant verbal features with respect to agency. The Role and Reference Grammar approach to lexical decomposition of verbs proved useful because it offers a strict procedure from determination of *Aktionsart* to indexing of semantic roles. In particular, verbs index their semantic roles according to dynamicity (states vs. activities) and causation. Since Biblical Hebrew is an ancient language, however, the determination of *Aktionsart* is more complicated than for modern languages. Canonical RRG has incorporated Dowty's test-questions to 'interrogate' the verbs, but these test-questions assume an intuition of the language that we can hardly possess for ancient languages, including BH. It was therefore argued that statistical approaches are more appropriate insofar as they take seriously the frequencies of actual attestations in the corpus. Accordingly, collostructional analysis was applied to inquire the reliance of BH verbs on selected adverbials. The analysis showed a clear distinction between verbs which are attracted by directional adverbials and verbs which are not. Thus, the analysis provided a statistical basis for distinguishing states and activities. More generally, the research illustrated the benefit of applying quantitative methods to the analysis of BH. In future research of BH *Aktionsart*, other adverbials and constructions should preferably be considered to substantiate the findings of the present study.

Apart from dynamicity, Hebrew morphological and lexical causatives were analyzed. Biblical Hebrew has two morphological causative stems, *Hiphil* and *Piel*. *Hiphil* is generally acknowledged

as a 'real' causative, while *Piel* is more likely factitive. Not all verbs occurring in these stems, however, are apparently causative or factitive. It was therefore inquired whether morphological causatives can be identified according to the ratio by which they increase in transitivity when they alternate from the non-causative stem *Qal* to *Hiphil/Piel*. The statistical analysis showed well that prototypical morphological causatives have a high tendency towards adding an external causer in *Hiphil* and *Piel*, while ambiguous and true negative cases have a lower or even negative tendency towards transitivity increase. Apart from a statistical analysis, each stem was conceptualized with RRG logical structures, and it was shown that the two stems indeed express finer causative distinctions, namely factitive (*Piel*) and 'real' causative (*Hiphil*). Importantly, when a verb is attested in both *Hiphil* and *Piel*, it often indexes different semantic roles according to the causative type of the stem. The analysis was primarily restricted to verbs attested in Lev 17–26, so further research into the remaining verbs of the HB is required to validate this hypothesis.

Lexical causatives proved harder to decompose since there are no syntactic clues to distinguish non-causatives and causatives apart from transitivity, insofar as intransitive verbs cannot be causative. There is some correlation between causation and the semantic transitivity hypothesis proposed by Hopper and Thompson (1980), since causatives are likely to involve an instigating causer and a fully affected undergoer. The correspondence was tested on BH verbs using Næss' (2007) semantic transitivity parameters: instigation, volition, and affectedness. Some correlation was noted, but since causation is a multifaceted concept (cf. Talmy 2000) and includes, e.g., permission, non-intervention, and hindrance, apart from the prototypical direct causation, one cannot escape a logical, lexical decomposition of the verb itself despite the obvious challenges offered by an ancient language.

The chapter was concluded with the proposal of a hierarchy of semantic roles according to the verbal, relational, and clausal properties explored in the chapter. The hierarchy provides a useful means for ranking participants according to their roles in concrete verbal events. Thus, although Lev 17–26 contains 181 different verbal predicates denoting a wide range of events, the agency hierarchy allows for comparing 'apples and oranges' so to say.

Chapter 5 combined the results of the participant tracking and the semantic role analysis in order to inquire the roles of the participants within the social network of Lev 17–26. The participants were conceptualized as network nodes and the verbs and agency scores as edges connecting the nodes. Although SNA has previously been applied to the study of literature, the present approach differed in several respects. Firstly, it was the first time to analyze the social network implied by a single law text. Secondly, the conceptualization of agency as network edges is unique and particularly apt for a law text in which agency plays a significant role. Thirdly, it was the first time to incorporate the

syntactic structure of the text into SNA as a third dimension alongside participants and agency. The 'control network' derived from the syntactic structure of the text proved useful in explaining the role of *Moses*. In the ordinary social network, *Moses* was found to have a limited role because many participants have direct interactions with *YHWH* besides *Moses'* mediation of divine revelation. However, the control network 'restored' his role because he was shown to be the second-most 'controlling' participant next to *YHWH* due to the fact that the vast majority of interactions recorded are part of *Moses'* direct speeches. Hence, the syntactic structure is a crucial component in capturing the roles of the participants, and an SNA risks misrepresenting the participants if this component is not considered.

More generally, three clusters of participants were identified using the node2vec algorithm for structural role detection. One cluster consisted of core participants: *YHWH*, the *Israelites* (2MPl), an individual, directly addressed Israelite (*2MSg*), a 3rd person *Israelite*, the *sojourner*, *Aaron*, and *Aaron's sons*. Another cluster consisted of intermediate participants with connections to multiple core participants but less frequently attested. This group included *Moses*, the *blasphemer* of Lev 24:10–23, the *brother*, among others. The last cluster consisted of peripheral participants occurring very infrequently in the network and often with low agency invested (i.e., the participants are more often undergoers of an event than actors). Most women of the text belong to this group, as well as the *father*, among others.

Selected participants of each cluster were closely inspected with an eye to their structural importance and their degree of agency invested in interactions with other participants. The most important participant is *YHWH* who controls most of the network and has the most connections with the most important participants. It is therefore safe to conclude that the Holiness Code is *YHWH's* law. Not only does it originate with *YHWH* as divine speeches, it is also oriented towards him. Although H is commonly viewed as community-oriented in contrast to cult-oriented P, *YHWH* is the organizing principle of the community implied by the text. The *Israelites*, who are the primary addressees of *Moses'* speeches, are the second-most important participants. Most other participants are referred to by reference to the *Israelites* or the individually addressed *2MSg* (e.g., 'your (Sg) brother', 'your (Pl) enemies', and 'the sojourner who dwells among you (Pl)'). The particular perspective of the society implied by the text is thus the covenantal community formed by *YHWH* and the people of Israel. The roles of the participants are derived from this perspective. As any other law text, H presupposes and reacts against violations against the social order. In this particular law text, the covenantal relationship with *YHWH* is at stake, and the members and outsiders of the community are presumed to be willing to violate the order of the society by reaching out for more wealth, power, and privileges at the

expense of others. The covenantal community thus finds itself in a constant threat of injustice and disentanglement. It is threatened by the greedy, individual Israelite (*2MSg*), the transitional *brother* who drifts away from his family and the community because of poverty and oppression, and the rebellious *blasphemer* who attacks the community and curses its god. The purpose of the law, then, is to constrain the behavior of the members of the community for the purpose of preserving order and holiness.

In sum, the SNA provides a multifaceted picture of the participants and the network of the Holiness Code. More than that, the participant roles derived from the SNA shed light upon the ethical and theological 'expectancies' with respect to the social community. The social community implied by the author may not be an ideal community. After all, there is always the threat of internal disentanglement and ritual impurity as well as attacks from outsiders. Nevertheless, while the society implied by the author may not be an ideal society, the participant roles reveal how the lawgiver expects his addressees to act in this particular society under certain circumstances. More than anything, the lawgiver values the covenantal community between *YHWH* and the *Israelites*, and this community can only be upheld if the people fulfill certain roles, e.g., if the *priests* respectfully facilitate the sacrifices offered by the *Israelites*, and if the individual Israelites sustain and care for their poor fellows. In other words, if holiness is the unifying theme of the Holiness Code as often argued, the expected participant roles are the manifestations of the author's view on holiness. Holiness manifested and maintained through social interaction.

6.2 Recommendations for further research

Finally, I want to point out some trajectories for further research along the lines of the present study. First, as was pointed out in the participant tracking of H (chapter 3), participant references cannot easily be resolved into clearly delineated participants. In general, participants fluctuate between group membership references and individual references, and they can be referred to by a variety of synonyms. In fact, quite distinct participants can be referred to by the same references. The most curious phenomenon is the reference גֵּר 'sojourner' which typically refers to non-Israelite residents but is also used to designate the status of the Israelites (25:23). This change of reference evidently introduces a play on identity because the Israelites, who are clearly set apart from non-Israelite sojourners, are in some sense sojourners themselves. In other words, the text consciously blurs the referential boundaries of the participants for ideological reasons. The task of participant tracking has to deal with such phenomena, and the present study has discussed how participants should be thought of as semantically overlapping. Still, further research is required in order to be able to retrieve hierarchies or

networks of overlapping or fluctuating participants. More concretely, it was suggested that additional linguistic parameters should be included in the disambiguation of participants because the text frequently employs complex phrases or relative clauses to specify the identity of the participants. Further, nominal clauses deserve more attention in order to further validate the two-step approach suggested in this thesis to track the participants of those particular clauses.

Second, along with participant tracking, the analysis of semantic roles (chapter 4) formed the backbone of the SNA of H. It was the goal of this study to propose linguistic cues to the semantic roles given the inherent aspect (*Aktionsart*) of the verb. In particular, quantitative methods were applied to explore dynamicity on the basis of collostructions of verbs and selected adverbials, as well as to explore morphological causatives on the basis of transitivity alternation between non-causative and causative stems. As for the collostruction analysis, much more research is surely needed to confirm or reject the conclusions of this study. Additional collostructions should be explored, not least collostructions of verbs and temporal modifiers in order to further scrutinize the inherent aspect of Biblical verbs. Also, the study of morphological causatives was limited primarily to those attested in H, but the transitivity alternation model should preferably be expanded to the entire Biblical corpus in order to further validate the approach and scrutinize morphological causatives.

Third, while most Biblical studies are oriented towards the historical context of Biblical texts in order to understand the *Sitz im Leben* of the text, the present study has deliberately refrained from historical questions. This choice is legitimate insofar as the object under consideration was not the historical setting of the Israelite community depicted in H, but the author's portrayal of and ethical stance towards the community. Nevertheless, texts are products of historical authors and reflect historical contexts in one way or another. It is therefore relevant to relate the observations made here on the implied society and the expected social roles to more general considerations of the historical context of H. Given the claim that the author does not stipulate how the society should look like but rather how different participants are to act within a given society, it is reasonable to expect the implied society to reflect a historical one. In particular, due to the lack of external evidence, the question of authorship has often focused on indirect evidence, that is, which social group can be said to benefit more from the legislation. I have argued that the Holiness Code does not benefit the priestly class in any significant way. That conclusion was based on the role the priests obtain in the social network. Hence, SNA can inform the ongoing debate on authorship attribution.

Fourth, the research documented here furthers the notion of Biblical law as literature rather than merely arbitrary collections of laws. The participant tracking showed that the author of H followed literary conventions concerning participant references otherwise associated with Biblical narratives.

In addition, the SNA demonstrated that the participants form a cohesive network similar to real-world networks, thereby supporting the notion of literary coherence. The methodology presented here can be applied to other legal collections, most importantly the Covenant Code (Exod 20:22–23:33) and the Deuteronomic Code (Deut 12–26), in order to characterize the participants of those texts. As a matter of fact, SNA is more efficient when similar social networks are compared and contrasted. For example, does YHWH have a more prominent role in H than in the other law texts? And is the sojourner characterized differently in H than in the other codes as often suggested? It is my contention that valuable insights on Biblical law and ethical roles could be gleaned by applying SNA to these texts as well. Importantly, SNA need not be limited to Biblical corpora. In fact, SNA has already been applied to the study of cuneiform archives as a method for mapping tablets and the participants mentioned in those tablets (cf. the summary of Mesopotamian research in §5.2.3). However, along the lines of the present study, SNA could also be applied to individual Mesopotamian and Egyptian law texts in order to map the ethical and social roles of the participants involved. The Code of Hammurabi, for example, has often been compared to the Biblical laws. A similar SNA of the Code of Hammurabi would qualify the comparisons even further.

Fifth, the methodology developed here can be applied to other genres of the Hebrew Bible. Although SNA has already been used for narratives (e.g., Che 2017), the present methodology captures interactions in a unique way by including all types of interactions and by quantifying the interactions by means of agency. It is reasonable to believe that narratives form small social networks with core and peripheral participants. The social network methodology developed here provides statistical tools for measuring the structural prominence of participants, and their interactions can be quantified according to agency. The drawback of the methodology is its reliance upon advanced semantic data that cannot automatically be extracted from the text. On the other hand, the demanding work on participant tracking and semantic roles itself uncovers important structural and literary features relevant for the interpretation of participant roles. Hopefully, the research documented here has broken new ground for further studies into BH semantics.

Sixth, it is my contention that more general studies of Biblical ethics would benefit from a network analysis of Biblical law. As shown, the laws of the Holiness Code are addressed to concrete participants in concrete situations. By implication, a particular law does not necessarily apply to everyone (although some laws might in fact do). Thus, in my opinion it is much more fruitful to observe how the Israelites should act in specific contexts with respect to specific participants rather than deriving abstract ethical principles apart from their situational contexts. For example, while H is indeed concerned with social justice, this concern is embedded in a holiness framework, and this framework

determines how the individual social laws should be interpreted and evaluated. Accordingly, I have argued that the purpose of the anti-incest laws in Lev 18 and 20 is not to protect the property of males, nor to protect the legal rights of women, but to preserve the purity and sanctity of the people by prohibiting certain sexual interactions. Thus, to rightly interpret Biblical law ethically, the laws need to be related to the participants, the specific situation (if specified), and the roles of the participants in the social setting. The present study has laid the foundation for exploring the ethical potential and scope of Biblical law by taking seriously the network roles of the participants and their concrete relationships with other participants. Having done this detailed research, I believe that the theological and ethical values of the law can more adequately be evaluated and related to modern ethics.

APPENDIX

The present study relies on a large amount of data relating to participant tracking, inherent verbal aspect (*Aktionsart*), semantic roles, and Social Network Analysis. All data are publicly and freely available in spreadsheets on GitHub.[287] A sample of the data is showed below in an interlinear, clause-by-clause representation of the Hebrew text. For the sake of space, only Lev 17 is displayed here.[288] Four types of data are represented, each deserving a few comments:[289]

1. Participant tracking: As explained in chapter 3, participant references are compositional; hence, there are references on various grammatical levels: phrase, subphrase, word, and morpheme level. Only phrase level participant references are included here for the sake of readability. Consequently, participant references on subphrase and word level are disregarded.
2. *Aktionsart*: Four types of *Aktionsart* are listed ('sta' = state, 'act' = activity, 'caus sta' = causative state, 'caus act' = causative activity).
3. Semantic roles: The semantic roles refer to the semantic role hierarchy established in §4.5. Some labels are abbreviated ('aff agent' = affected agent, 'instr' = instrument, 'frust' = frustrative, 'vol under' = volitional undergoer).
4. Social network participants: The participant labels refer to the nodes used in the SNA and do not necessarily correspond to the labels in the participant tracking data (e.g., כֹּהֵן 'priest' is labelled 'Aaron's sons' in 17:5c because all ordinary priests in Lev 17–26 are considered the sons of Aaron for the sake of the SNA). Some participant references refer to more than one participant (e.g., 17:2a). In that case, the involved participants are listed. As a rule, participants realized by the subject of a verb are only annotated once, either encoded on the explicit subject of the clause or on the verb (implicit subject) in lack of an explicit subject (compare 17:1a and 17:2a).

[287] The datasets are stored separately according to datatype:

- Participant tracking: https://github.com/ch-jensen/participants/tree/master/Datasets.
- Semantic roles: https://github.com/ch-jensen/semantic-roles/tree/master/datasets.
- SNA: https://github.com/ch-jensen/SNA/tree/master/datasets.

[288] For the remaining chapters in an interlinear display, cf. https://github.com/ch-jensen/Roles-and-Relations/blob/main/Full%20appendix.pdf.

[289] Only relevant data are represented in the interlinear display, however. For example, if a clause does not contain semantic role annotations, the line with semantic roles is skipped (e.g., 17:8b).

17:1	וַ	יְדַבֵּר	יְהוָה	אֶל־מֹשֶׁה	
Participant tracking	-	יהוה	יהוה	מֹשֶׁה	
Aktionsart	-	act	-	-	
Semantic roles	-	-	agent	vol under	
SNA-nodes	-	-	YHWH	Moses	
	לֵאמֹר:				
	יהוה				
	act				
	agent				
17:2	דַּבֵּר			אֶל־אַהֲרֹן וְאֶל־בָּנָיו וְאֶל כָּל־בְּנֵי יִשְׂרָאֵל	
	מֹשֶׁה			אַהֲרֹן בֵּן-אַהֲרֹן כֹּל בֵּן יִשְׂרָאֵל	
	act			-	
	agent			vol under	
	Moses			Aaron, Aaron's_sons, Israelites	
	וְ	אָמַרְתָּ		אֲלֵיהֶם	
	-	מֹשֶׁה		אַהֲרֹן בֵּן-אַהֲרֹן כֹּל בֵּן יִשְׂרָאֵל	
	-	act		-	
	-	agent		vol under	
	-	Moses		Aaron, Aaron's_sons, Israelites	
	זֶה	הַדָּבָר			
	דָּבָר	דָּבָר			
	אֲשֶׁר־	צִוָּה	יְהוָה		
	-	יהוה	יהוה		
	-	caus act	-		
	neut	-	agent		
	לֵאמֹר:				
	יהוה				
	act				
	agent				
17:3	אִישׁ אִישׁ[290]		מִבֵּית יִשְׂרָאֵל		
	אִישׁ אִישׁ		בַּיִת יִשְׂרָאֵל		
	אֲשֶׁר	יִשְׁחַט	שׁוֹר אוֹ־כֶשֶׂב אוֹ־עֵז	בַּמַּחֲנֶה	
	-	אִישׁ אִישׁ	שׁוֹר כֶּשֶׂב עֵז	מַחֲנֶה	
	-	caus sta	-	-	
		agent	patient	-	

[290] The participant reference should rightly be אִישׁ. The expression אִישׁ אִישׁ does not mean ‘man man’ but ‘each/every man’. I am grateful to Constantijn Sikkel and W. T. van Peursen for this clarification (personal conversation). The discrepancy with 17:10a (אִישׁ) owes to an inconsistency in the version of the database used for the present analysis. The inconsistency is corrected in later versions.

אוֹ	אֲשֶׁר	יִשְׁחַט	מִחוּץ	לַמַּחֲנֶה:	
-	-	אִישׁ אִישׁ	-	מַחֲנֶה	
-	-	caus sta	-	-	
-	-	agent	-	-	
וְ	אֶל־פֶּתַח אֹהֶל מוֹעֵד		לֹא	הֱבִיאוֹ	17:4
-	פֶּתַח אֹהֶל מוֹעֵד		-	אִישׁ אִישׁ	
-	-		-	caus act	
-	neut		-	agent, patient (sfx)	
לְהַקְרִיב	קָרְבָּן	לַיהוָה	לִפְנֵי מִשְׁכַּן יְהוָה		
אִישׁ אִישׁ	קָרְבָּן	יהוה	פָּנָה מִשְׁכָּן יהוה		
caus act	-	-	-		
agent	patient	-	neut		
דָּם	יֵחָשֵׁב	לָאִישׁ הַהוּא			
דָּם	דָּם	אִישׁ אִישׁ			
-	act	-			
neut	-	patient			
דָּם	שָׁפָךְ				
דָּם	אִישׁ אִישׁ				
-	caus sta				
patient	agent				
וְ	נִכְרַת	הָאִישׁ הַהוּא	מֵעַמּוֹ:		
-	אִישׁ אִישׁ	אִישׁ אִישׁ	קָרֵב עַם-אִישׁ אִישׁ		
-	caus sta	-	-		
-	-	patient	neut		
-	-	an_Israelite	kinsmen		
לְמַעַן אֲשֶׁר	יָבִיאוּ	בְּנֵי יִשְׂרָאֵל	אֶת־זִבְחֵיהֶם		17:5
-	בֵּן יִשְׂרָאֵל	בֵּן יִשְׂרָאֵל	זֶבַח-בֵּן יִשְׂרָאֵל		
-	caus act	-	-		
-	-	agent	patient		
אֲשֶׁר	הֵם	זֹבְחִים	עַל־פְּנֵי הַשָּׂדֶה		
-	בֵּן יִשְׂרָאֵל	בֵּן יִשְׂרָאֵל	-		
-	-	caus sta	-		
-	agent	-	-		
וְ	הֱבִיאָם	לַיהוָה	אֶל־פֶּתַח אֹהֶל מוֹעֵד	אֶל־הַכֹּהֵן	
-	בֵּן יִשְׂרָאֵל	יהוה	פָּתַח אֹהֶל מוֹעֵד	כֹּהֵן	
-	caus act	-	-	-	
-	agent	vol under YHWH	neut	vol under Aaron's_sons	
-	Israelites		-		

	וְ	זָבְחוּ	זִבְחֵי שְׁלָמִים	לַיהוָה	אוֹתָם:
	-	בֵּן יִשְׂרָאֵל	זֶבַח שֶׁלֶם	יהוה	זֶבַח-בֵּן יִשְׂרָאֵל
	-	caus sta	-	-	-
	-	agent	neut	-	patient
17:6	וְ	זָרַק	הַכֹּהֵן	אֶת־ הַדָּמ	עַל־מִזְבַּח יְהוָה
	-	כֹּהֵן	כֹּהֵן	דָּם	מִזְבַּח יהוה
	-	caus act	-	-	-
	-	-	agent	patient	neut
	וְ	הִקְטִיר	הַחֵלֶב	לְרֵיחַ נִיחֹחַ	לַיהוָה:
	-	כֹּהֵן	חֵלֶב	רֵיחַ נִיחֹחַ	יהוה
	-	caus sta	-	-	-
	-	agent	patient	neut	-
17:7	וְ	לֹא־	יִזְבְּחוּ	עוֹד	אֶת־ זִבְחֵיהֶם
	-	-	בֵּן יִשְׂרָאֵל	-	זֶבַח-בֵּן יִשְׂרָאֵל
	-	-	caus sta	-	-
	-	-	agent	-	patient
	-	-	Israelites	-	-
	אֲשֶׁר	הֵם	זֹנִים	אַחֲרֵיהֶם	
	-	בֵּן יִשְׂרָאֵל	בֵּן יִשְׂרָאֵל	שָׂעִיר	
	-	-	act	-	
	-	agent	-	vol under	
	-	Israelites	-	idols	
	חֻקַּת עוֹלָם	תִּהְיֶה־	זֹאת	לָהֶם	לְדֹרֹתָם:
	חֻקָּה עוֹלָם	חֻקָּה עוֹלָם	חֻקָּה עוֹלָם	בֵּן יִשְׂרָאֵל	-
17:8	וַ	אֲלֵהֶם	תֹּאמַר		
	-	בֵּן יִשְׂרָאֵל	מֹשֶׁה		
	-	-	act		
	-	vol under	agent		
	-	Israelites	Moses		
	אִישׁ אִישׁ	מִבֵּית יִשְׂרָאֵל וּמִן־הַגֵּר			
	#2 אִישׁ אִישׁ	בַּית יִשְׂרָאֵל גֵּר			
	אֲשֶׁר־	יָגוּר	בְּתוֹכָם		
	-	גֵּר	תָּוֶךְ-בַּית יִשְׂרָאֵל		
	-	sta	-		
	-	patient	neut		
	אֲשֶׁר־	יַעֲלֶה	עֹלָה אוֹ־זָבַח:		
	-	#2 אִישׁ אִישׁ	עֹלָה זֶבַח		
	-	act	-		

	-	agent	patient		
17:9	וְ	אֶל־פֶּתַח אֹהֶל מוֹעֵד	לֹא	יְבִיאֻנּוּ	
	-	פֶּתַח אֹהֶל מוֹעֵד	-	#2 אִישׁ אִישׁ	
	-	-	-	caus act	
	-	neut	-	agent, patient (sfx)	
	לַעֲשׂוֹת	אֹתוֹ	לַיהוָה		
	#2 אִישׁ אִישׁ	-	יהוה		
	act	-	-		
	agent	patient	vol under YHWH		
	an_Israelite, sojourner	-			
	וְ	נִכְרֶת	הָאִישׁ הַהוּא	מֵעַמָּיו:	
	-	#2 אִישׁ אִישׁ	#2 אִישׁ אִישׁ	עַם-אִישׁ אִישׁ	
	-	caus sta	-	-	
	-	-	patient	neut	
	-	-	an_Israelite, sojourner	kinsmen	
17:10	וְ	אִישׁ	אִישׁ	מִבֵּית יִשְׂרָאֵל וּמִן־הַגֵּר	
	-	אִישׁ	אִישׁ	בֵּית יִשְׂרָאֵל גֵּר	
	הַ	גָּר	בְּתוֹכָם		
	-	גֵּר	#2 תָּוֶךְ-בֵּית יִשְׂרָאֵל		
	-	sta	-		
	-	neut	neut		
	אֲשֶׁר	יֹאכַל	כָּל־דָּם		
	-	#2 אִישׁ אִישׁ	כֹּל דָּם		
	-	act	-		
	-	aff agent	patient		
	וְ	נָתַתִּי	פָנַי	בַּנֶּפֶשׁ	
	-	יהוה	פָּנֶה-יהוה	נֶפֶשׁ	
	-	caus sta	-	-	
	-	YHWH	-	an_Israelite, sojourner	
	-	agent	patient	patient	
	הָ	אֹכֶלֶת	אֶת־הַדָּם		
	-	נֶפֶשׁ	דָּם		
	-	act	-		
	-	aff agent	patient		
	וְ	הִכְרַתִּי	אֹתָהּ	מִקֶּרֶב עַמָּהּ:	
	-	יהוה	נֶפֶשׁ	קֶרֶב עַם-נֶפֶשׁ	
	-	caus sta	-	-	
	-	agent	patient	neut	
	-	YHWH	an_Israelite, sojourner	kinsmen	

17:11	כִּי	נֶפֶשׁ הַבָּשָׂר֙				
	-	נֶפֶשׁ בָּשָׂר				
	בַּדָּם	הִוא֒				
	נֶפֶשׁ בָּשָׂר	נֶפֶשׁ בָּשָׂר				
	וַ	אֲנִ֨י	נְתַתִּ֤יו	לָכֶם֙	עַל־	
					הַמִּזְבֵּ֔חַ	
	-	יהוה	יהוה	בֵּן יִשְׂרָאֵל	מִזְבֵּחַ	
	-	-	caus sta	-	-	
	-	agent	patient (sfx)	vol under	neut	
	-	YHWH	-	Israelites	-	
	לְכַפֵּ֖ר	עַל־נַפְשֹׁתֵיכֶ֑ם				
	בֵּן יִשְׂרָאֵל	נֶפֶשׁ-בֵּן יִשְׂרָאֵל				
	act	-				
	aff agent	vol under				
	כִּי־	הַדָּ֣ם				
	-	דָּם				
	הִוא	בַּנֶּ֥פֶשׁ	יְכַפֵּֽר׃			
	דָּם	#3 נֶפֶשׁ	דָּם			
	-	-	act			
	instr	vol under	-			
17:12	עַל־כֵּן	אָמַ֥רְתִּי	לִבְנֵי			
			יִשְׂרָאֵ֔ל			
	-	יהוה	בֵּן יִשְׂרָאֵל			
	-	act	-			
	-	agent	vol under			
	-	YHWH	Israelites			
	כָּל־נֶ֖פֶשׁ	מִכֶּ֑ם	לֹא־	תֹאכַ֣ל	דָּ֔ם	
	כֹּל נֶפֶשׁ	בֵּן יִשְׂרָאֵל	-	#2 נֶפֶשׁ	דָּם	
	-	-	-	act	-	
	aff agent	aff agent	-	-	patient	
	וְ	הַגֵּ֥ר				
	-	גֵּר				
	-	-				
	-	aff agent				
	הַ	גָּ֖ר	בְּתוֹכְכֶֽם׃			
	-	גֵּר	תּוֹךְ-בֵּן יִשְׂרָאֵל			
	-	sta	-			
	-	patient	neut			

לֹא־	יֹאכַל	דָּם: ס	
-	גֵּר	דָּם	
-	act	-	
-	-	patient	
וְ	אִישׁ אִישׁ	מִבְּנֵי יִשְׂרָאֵל וּמִן־הַגֵּר	**17:13**
-	#2 אִישׁ אִישׁ	-	
הַ	גֵּר	בְּתוֹכָם	
-	גֵּר	#2 תָּוֶךְ-בֵּן יִשְׂרָאֵל	
-	sta	-	
-	patient	neut	
אֲשֶׁר	יָצוּד	צַיִד חַיָּה אוֹ־עוֹף	
-	#2 אִישׁ אִישׁ	צַיִד חַיָּה עוֹף	
-	act	-	
-	agent	patient	
אֲשֶׁר	יֵאָכֵל		
-	צַיִד חַיָּה עוֹף		
-	act		
-	patient		
וְ	שָׁפַךְ	אֶת־דָּמוֹ	
-	#2 אִישׁ אִישׁ	דָּם-צַיִד חַיָּה עוֹף	
-	caus sta	-	
-	agent	patient	
וְ	כִסָּהוּ	בֶּעָפָר:	
-	#2 אִישׁ אִישׁ	עָפָר	
-	caus sta	-	
-	agent, patient (sfx)	patient	
כִּי־	נֶפֶשׁ כָּל־בָּשָׂר		**17:14**
-	נֶפֶשׁ בָּשָׂר		
דָּמוֹ			
דָּם-בָּשָׂר			
בְּנַפְשׁוֹ	הוּא		
דָּם-בָּשָׂר	דָּם-בָּשָׂר		
וָ	אמַר	לִבְנֵי יִשְׂרָאֵל	
-	יהוה	בֵּן יִשְׂרָאֵל	
-	act	-	
-	agent	vol under	
-	YHWH	Israelites	
דַּם כָּל־בָּשָׂר	לֹא	תֹאכֵלוּ	
דָּם-בָּשָׂר	-	בֵּן יִשְׂרָאֵל	
-	-	act	

aff agent	-	patient		
	נֶפֶשׁ כָּל־בָּשָׂר	כִּי		
	דָּם-בָּשָׂר	-		
	הַוּא	דָּמוֹ		
	דָּם-בָּשָׂר	דָּם-בָּשָׂר		
יִכָּרֵת׃	אֹכְלָיו	כָּל־		
כֹּל	כֹּל	כֹּל		
caus sta	act	-		
-	aff agent, patient (sfx)	patient		
	כָּל־נָּפֶשׁ	וְ	17:15	
	תֹּאכַל	אֲשֶׁר		
נְבֵלָה וְטְרֵפָה				
נְבֵלָה טְרֵיפָה	נֶפֶשׁ	-		
-	act	-		
patient	aff agent	-		
		בְּאֶזְרָח וּבַגֵּר		
בְּגָדָיו	כִבֶּס	וְ		
בֶּגֶד-נֶפֶשׁ	נֶפֶשׁ	-		
-	caus sta	-		
patient	agent	-		
בַּמַּיִם	רָחַץ	וְ		
מַיִם	נֶפֶשׁ	-		
-	caus sta	-		
neut	aff agent	-		
עַד־הָעֶרֶב	טָמֵא	וְ		
-	נֶפֶשׁ	-		
-	sta	-		
-	patient	-		
	טָהֵר׃	וְ		
	נֶפֶשׁ	-		
	sta	-		
	vol under	-		
יְכַבֵּס	לֹא	אִם	וְ	17:16
נֶפֶשׁ	-	-	-	
caus sta	-	-	-	
agent	-	-	-	
יִרְחָץ	לֹא	בְשָׂרוֹ	וּ	
נֶפֶשׁ	-	בָּשָׂר-נֶפֶשׁ	-	

	caus sta	-	-	-
	agent	-	patient	-
		עֲוֹנוֹ: פ	נָשָׂא	וְ
		עָוֹן-נֶפֶשׁ	נֶפֶשׁ	-
		-	caus act	-
		neut	agent	-

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